# A STUDY TO EVALUATE THE EFFECTIVENESS OF CONCENTRATION ENHANCEMENT ACTIVITIES IN IMPROVING THE CONCENTRATION AMONG THE SELECTED SCHOOL AGE CHILDREN WITH ATTENTION DEFICIT AND HYPERACTIVITY IN THE SELECTED PRIMARY SCHOOLS AT KANYAKUMARI DISTRICT.


**A DISSERTATION SUBMITTED TO THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING**

**APRIL – 2012.**

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…… ……

**INTERNAL EXAMINER** **EXTERNAL EXAMINER**

**CERTIFICATE**

This is to certify that this is the bonafide work of …… IIyear MSc. Nursing, **SreeMookambika College of Nursing, Kulasekharam**. in partial fulfillment of the requirements for the Degree of Master of Science in Nursing, submitted to Dr. M.G.R. Medical University, Chennai.

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**Investigator**

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# CHAPTER I

## INTRODUCTION

For he who has no tranquility there is no concentration.

Bhagavad Gita.

Success in any endeavor requires single minded attention to detail and total concentration. Willie Sutton.

Low concentration level is a common problem among children in these days**.** (www.iloveindia.com)

Life moves in a series of sequences, one event connected to another and to another as our activities continue. Attention Deficit and Hyperactive Disorder (ADHD) children have difficulty with understanding sequences, creating a variety of problems. ADHD children have very low levels of attention, focus and concentration. ADHD children typically have many academic problems. Despite being intelligent, academic performance is often below grade level. Without treatment ADHD children rapidly lose ground in school. (www.womensaccount.com.)

Attention Deficit and Hyperactivity Disorder is a non curable neurological disorder that creates information processing challenges among those individuals affected by it. In children, ADHD symptoms interfere with success in school and relationship with parents, siblings or peers. For adults ADHD interferes with both work and family functioning.

(Margret, Natalie and Laura 2007)

According to American Psychiatric Association (2002) ADHD affects between 4% and 12% of school age children or as many as 3.8 million U.S children.

According to Guiherme Polanczyk et.al (2007), the ADHD worldwide pooled prevalence was 5.29%.

Problems with attention to classroom instruction and school work are extremely common among students, and a recent survey on teachers indicated that approximately 16% of elementary school children displayed frequent inattention and/or poor concentration. Up to 80% of students with AD/HD revealed a substantially higher history of grade retention, placement in special education, and school-drop out relative to their peers.

(David Rabiner, 2003)

Concentration, like other abilities, is something that develops as people age. It is defined by the ability to direct mind to one single thought or task. This is something that many people, both adults and children, have a difficult time doing because of distractions, which causes their attention to be divided between different subjects. There are numbers of cognitive exercises that kids can start with, which can help them to develop better concentration so that their memory and ability to focus improves. (www.ehow.com)

**Need and Significance of the Study**

Children's population is considered to be the greatest potential for any nation. Only when children enjoy a state of well being in every true sense, harmony, stability, peace and happiness, will prevail in any family and community, in building a strong nation. A major task of families and educational institutions is to nurture children to become healthy, responsible and creative adults. If any child has the problem of inattentiveness and hyperactivity that may lower his or her concentration which may internally affect the academic performance.(K. Mary Rita, 2011)

Centre of Disease Control and Prevention (CDCP) in 2007 reported that 4.5 million children between the age of 3 and 17 years (7% of this age group) were affected with ADHD.

According to B.K. Rao, Chairman of Associated Chambers of Commerce and Industry of India (2011) conducted a study on Rising number of ADHD kids in metropolitan cities revealed that prevalence of children diagnosed with ADHD has gone up from 4% to 11% in the past 6 years (2005 – 2011) and more boys were affected by ADHD than girls.

According to United States National Survey of Children Health (NSCH-2007), ADHD (4-17 years of age) diagnosis increased from 7.8% to 9.5% during 2003-2007.

Ana Miranda, Maria Tesus Presentacion, Manuel Soriano(2002) conducted a study to evaluate the efficiency of a multi component program for treating ADHD carried out by the teachers in a classroom context. Fifty

children with ADHD participated in the study. Teachers of 29 of the fifty students trained in the use of behavior modification techniques and cognitive behaviors strategies. The other 21 students formed the control group. The result showed increased academic scores, enhanced class room behavioral observations and improved teachers knowledge about the strategies directed towards responding to the children's education needs.

George.J . Dupaul, Kara.E. Mc goey, Tanya.L.Eckert, John Van Brakle (2002) conducted a study to examine difference in home, school, medical functioning between pre-school age children with ADHD and normal control children. A sample of 94 children (58 with ADHD, 36 normal controls) between 3 and 5 years old were participated in the study. The result showed that young children with ADHD exhibited more problem behavior and were less socially skilled than their normal counterparts according to behavior ratings.

More and more children suffering from attention disorder, found difficult to focus on a single thing, for too long on a time. This creates a problem, especially when studies are concerned. There are numerous activities that appeal to children and improve their concentration as well, thereby enhancing their memory and mental sharpness. Then, there are games and puzzles that are fun and also increase the attentiveness of a child. (www.iloveindia.com)

Recent studies support the notion that many children with ADHD have cognitive deficits, specifically in working memory – the ability to hold mind information that guides behavior. The cognitive problems manifest behaviorally as inattention and contribute to poor academic performance.

(Gunja Sinha, 2005).

By reading the journals the investigator understood that the concentration enhancement activities have more efficiency in improving concentration. So the investigator felt that it was needed to conduct a study to evaluate the effectiveness of concentration enhancement activities among school age children, as one study was to be done for the partial fulfillment of the M.Sc nursing programme.

**Statement of the Problem**

A study to evaluate the effectiveness of concentration enhancement activities in improving the concentration among the selected school age children with attention deficit and hyperactivity in the selected primary schools at Kanyakumari District.

**Objectives**

1. To establish the experimental and control groups with attention deficit and hyperactive school age children.

2. To pre test the concentration level of those selected school age children with attention deficit and hyperactivity assigned in the experimental as well as in the control groups.

3. To post test the level of concentration within the experimental group after implementing concentration enhancement activities and in the control group without implementing.

4. To evaluate the effectiveness of concentration enhancement activities in improving the concentration by comparing the pre and post tests of concentration level between the experimental and control groups.

5. To determine the association of the pretested concentration level among the selected subjects with their selected demographic variables such as sex, type of family, family income, birth order and family structure.

**Hypothesis**

H1 : There is a significant improvement in the level of concentration among the selected school age children in the experimental group after implementing concentration enhancement activities.

H2 : There is a significant difference in the level of concentration between the experimental and control groups of selected school age children with attention deficit and hyperactivity after the concentration enhancement activities.

H3 : There is a significant association of the pretested concentration level identified among the selected subjects with their selected demographic variables such as sex, type of family, family income, birth order and family structure.

**Operational Definition**

**Effectiveness** :- It refers to the positive outcome of concentration enhancement activities in improving concentration level among the selected school age children with attention deficit and hyperactivity.

**Concentration Enhancement Activities (CEA**) :- In this study CEA refers to a set of activities which include letter cancellation , color cancellation, beading, storytelling and puzzle solving carried out to improve the level of concentration among the children.

**Attention Deficit** :- In this study it refers to the level of inattention above score 5 as per the inattention criteria.

**Hyperactivity** :- In this study it refers to the abnormal increase in activities indicated by score above 5 as per the hyperactivity criteria.

**Improving the Concentration** :- In this study it refers to enhancing the mind to focus on a single task for a while.

**School Age Children** :- In this study school age children refer to those children who were selected for the study between the age group of 6 and 8 years, studying from I to IV standard in the selected government schools.

**Assumption**

- Attention deficit and hyperactive children may be common among school age children.
- Attention deficit and hyperactivity may predispose to poor concentration among school age children.
- Poor concentration may lead to poor academic performance.

- Concentration enhancement activities may improve the concentration level of children which may have a positive influence in their academic performance.

**Delimitations**

This study was delimited to

- Sixty samples only.
- Ten days only.
- Children between the age of 6 and 8 years only.
- Two tamil medium schools only.

**Conceptual Framework**

Conceptualization refers to the process of developing and refining abstract. A conceptual model gives a clear picture for logical thinking, for the systematic observation and interpreting the observed data. The model also gives direction for relevant questions on phenomena and points out solutions to practical problems.

One of the important purposes of theoretical framework is to communicate clearly the relationship of various concepts. Theoretical framework provides a certain frame work of reference for clinical practice, research and education. It is a global idea about a concept in relation to specific discipline. It is a visual diagram by which the researcher explains the specific area of interest.

Conceptual framework for this study was derived from the General System Theory designed by Ludwig Von Bertlanffy (1986) who had defined " a system as a whole with interrelated parts in which the parts have their own functions. All living systems are open systems :- they cannot survive without continuously exchanging matter and energy with their environment. The peculiarity of open system is that they interact with other systems outside of themselves.

The systems interaction has three components:-

- Input :- what enters the system from the outside.
- Output :- what leaves the system outside of themselves.
- Throughput :- the transformation of input into output by the system .
- Feed back:-When the output returned into the system as input, the process is known as feedback.

**Input**

In this study, the input included the school age children who were detected by the investigator to have poor level of concentration as per the Bhatia's Battery of Performance Test of Intelligence (BBPTI) scale criteria and who were already screened from the selected schools to have attention deficit and hyperactivity as per the Modified NICHQ Vanderbilt's Assessment Scale's criteria. Sixty subjects were grouped as 30 in experimental group and 30 in control group.

**Throughput**

Throughput was the process by which the children who were screened to have poor concentration in the experimental group were passed through the performance of concentration enhancement activities which included letter cancellation, color cancellation, beading, storytelling and puzzle solving, each activity for thirty minutes for two days. Totally five activities were performed for ten days by the selected school age children.

**Output**

The output was the outcome of Concentration Enhancement Activities after ten days of implementation for the experimental group of children. A post test was done on the 11th day of the Concentration Enhancement Activities for both the experimental and control groups using BBPTI.

**Feed back**

If the output was found to be ineffective, the process may be restarted with the pre assessment of their level of concentration. In this study the investigator has found the concentration enhancement activity programme was effective in increasing the concentration level of the selected school age children. Hence feedback was not done.

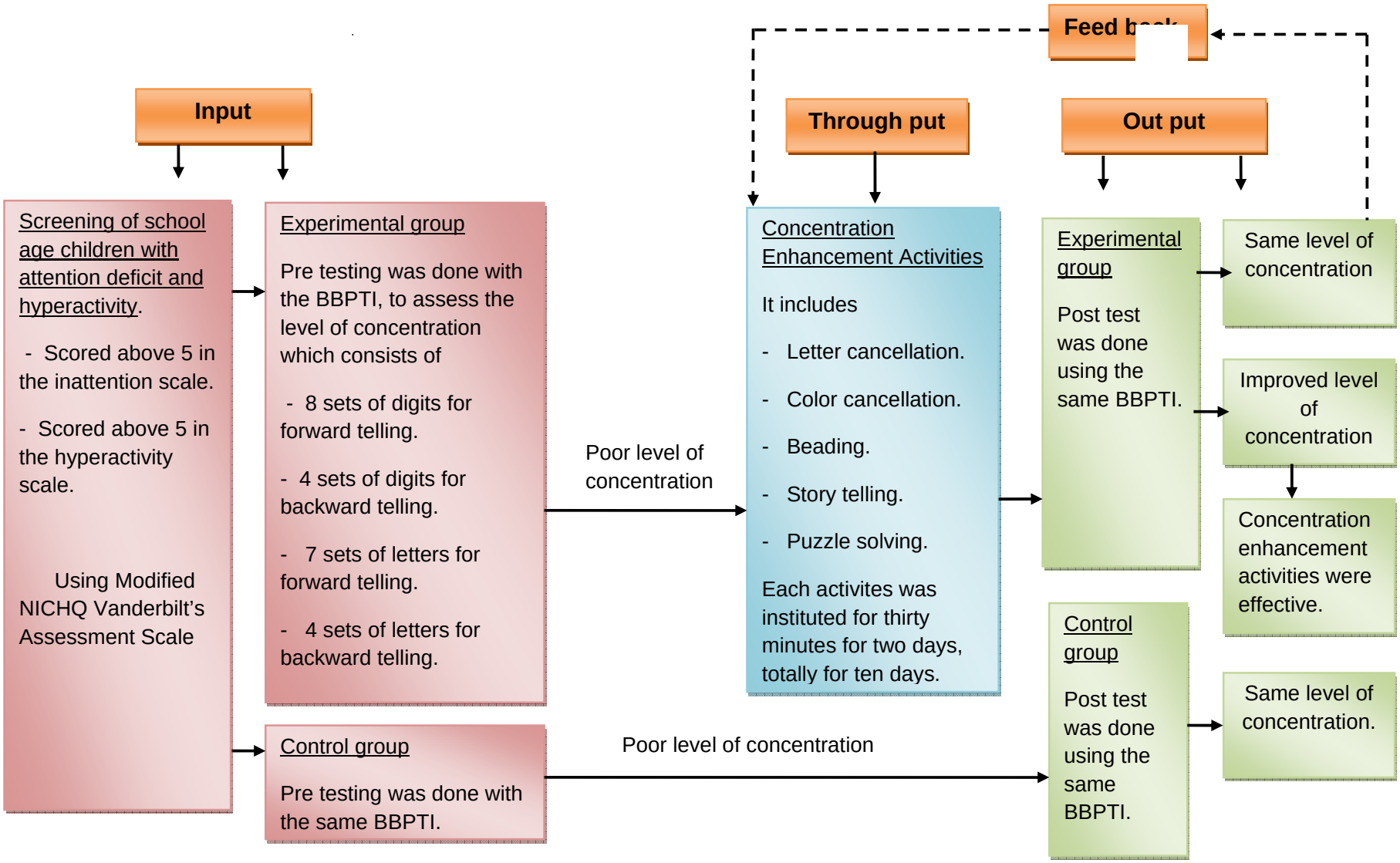


**Figure 1 : Conceptual frame work based on Ludwig Von Bertlanffy's General System Theory**

BBPTI – Bhatia's Battery of Performance Tests of Intelligence.

# CHAPTER II

## REVIEW OF LITERATURE

The review of literature is defined as a broad comprehensive, in depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audio - visual materials and personal communication.

(Basavanthappa, 2002)

Researchers never conduct a study in an intellectual vacuum. Their studies are usually undertaken in the context of an existing knowledge base. Researchers often undertake a literature review to familiarize themselves with knowledge base. For both qualitative and quantitative researchers, a literature review is important for developing a broad conceptual context into which a research problem will fit. The search for related literature is one of the first phase in the research process. It is a valuable guide for defining the problem, recognizing its significance and suggesting and also promising data gathering devices appropriate study design and sources of data.

(John. W. Best, 1999)

The related literatures for the present study were over viewed and organized under the following heading.

1. Studies related to the prevalence of Attention Deficit and Hyperactivity Disorder (ADHD) among children.
2. Studies related to the predisposing factors of Attention Deficit and Hyperactivity Disorder (ADHD) among children.

3. Studies related to the predisposing factors of poor concentration among children.
4. Studies related to the relation between Attention Deficit and Hyperactivity Disorder (ADHD) and poor concentration among children.
5. Studies related to remedial measures to improve concentration level among Attention Deficit Hyperactivity Disorder (ADHD) children.

**Studies Related to Prevalence of Attention Deficit and Hyperactivity Disorder (ADHD)**

According to the survey conducted by the Associated Chambers of Commerce and Industry of India (2011) among thousand school teachers and doctors revealed that in every single class one to three children were diagnosed as Attention Deficit and Hyperactivity Disorder among whom boys were more than girls.

According to Steven Reinberg (2010), the number of US children with ADHD jumped nearly 22 percentage in a recent four years period, meaning nearly one in every 10 kids is now diagnosed with the disorder.

B.S. Saravana and A. Kamath (2009) conducted a study to determine the prevalence rate of ADHD in preschool age children in kinder gardens of South West Mumbai. One thousand two hundred and fifty children aged between 4-6 years were selected for the study. The prevalence rate of ADHD in preschool age children was 12.2%. This study recommended the need for diagnosis and treatment of ADHD in preschool aged children.

Jamal.H.Alhamed, Attia.Z.Taha and Arnr.A.Sahara (2008) conducted a study to determine the prevalence of ADHD among male primary school children in Dammocity, Saudi Arabia. It included 1287 students aged 6-13 years. The study showed that 16.4% have ADHD; a prevalence of 12.4% for Hyperactivity and impulsivity; a prevalence of 16.3% for Inattention disorder.

Paria Hebarani etal (2007) performed a study to determine the prevalence rate of ADHD in preschool aged children in kinder gardens of Mashhad, North east of Iran. One thousand and eighty three children aged between 5 and 6 years, were selected randomly for the study. The study showed that 113 (12.3%) of children were diagnosed to have Attention Deficit and Hyperactive Disorder.

According to Shobha Srinath (2006) 1.7 % of the children in urban areas in the age of 4 to 6 years may have Attention Deficit and Hyperactive Disorder in India and the prevalence rate was higher in boys than in girls. According to the author, medication for the condition should be prescribed only in severe cases and most children should be managed through behavioral modifications.

Steven .P. Cuffe , Charity .G. Moore and Robert. E. Mckeown (2005) conducted a study to determine the prevalence and correlates of ADHD symptoms in the National Health Interview Survey (NHIS) of South Carolina. Study included 10,367 children aged 4 to 17 years. The study revealed the prevalence of clinically significant ADHD symptoms were 4.19% (males) and 1.77% (females). Male prevalence by race was 3.06% for Hispanics, 4.33% for whites and 5.65% for blacks.

Attention Deficit and Hyperactivity Disorder (ADHD) is the second most common chronic illness in children after asthma and is the most commonly diagnosed behavioral disorder.(Guevara etal,2001).

M.S. Bhatia, S.choudhary and Ajeet Sindana (1999) conducted a study to determine the prevalence of ADHD among children attending psychiatric outpatient department. Out of 362 children aged (3-12 years) attending the outpatient clinic, 64 (17.7%) were found to have ADHD. The boy : girl ratio among children with ADHD was 3:1.

**Studies Related to the Predisposing Factors of Attention Deficit and Hyperactive Disorder (ADHD)**

Montes.G, Lotyczewski.B.S, Halterman.J.S and Hightower.A.D.(2011) conducted a study to estimate the association between behavior problems and kinder garden readiness on a US national sample. The sample included 176 children with behavioral problems for a national prevalence of 14%. Children with behavior problems were more likely to be male who live in households with lower income and parental education. The study result revealed that parents of children with behavior problems were 5.2 times more likely to report their child was not ready for kinder garden.

Cedric Galera etal. (2011) conducted a study to describe the developmental trajectories of hyperactivity – impulsivity and inattention symptoms and to identify their prenatal, perinatal and post natal risk factors. The study consisted of 2057 individuals from age 5 months to 8 years. The study revealed that frequency of hyperactivity – impulsivity symptoms tended to slightly decrease with age, where as frequency of inattention symptoms

substantially increased up to age. The risk factors for high trajectories of both types of symptoms were premature birth, low birth weight, prenatal tobacco exposure, non intact family, young maternal age at birth of the target child, paternal history of antisocial behavior and maternal depression.

Banerjee .T.D, Middleton.F. and Faraone.S.V. (2007) conducted a study to assess the environmental risk factors for attention deficit hyperactive disorder. The study revealed that this highly prevalent disorder is estimated to affect 5-10% of children and in many cases, persists into adulthood, leading to 4 % prevalence among adults. There are several biological and environmental factors have been proposed as risk factors for ADHD, including hereditary, food additives/diet, lead contamination, cigarette and alcohol exposure, maternal smoking during pregnancy and low birth weight.

**Studies Related to the Predisposing Factors of Poor Concentration Among Children.**

Beers.S.R. and De Bellis M.D. (2002) conducted a study to evaluate cognition in children with post traumatic stress disorder (PTSD). The cognitive status of 14 pediatric psychiatric out patient with maltreatment related PTSD and 15 socio demographically similar children who were healthy and had not been maltreated was involved in the study. The study revealed that the children with PTSD performed more poorly on measures of attention, concentration and abstract reasoning/ executive function.

Sarada Devi and Kiran (2002) conducted a study to assess the family factors associated with scholastic performance of secondary school children. Study included 100 low achieving students (50 girls 50 boys) of ninth and

tenth classes from ten private English medium schools of Hyderabad. The major family factors associated with scholastic backwardness included large family size, low educational status of parents, low parental involvement and low parental encouragement.

Janaki (1986) conducted a study to assess the poor school performance in school children's. One hundred and seventeen girls of sixth standard of an English medium convent day school were included in the study. Results revealed that a significant difference in IQ between the average and below average was seen. Scholastically below average children also had an average IQ. Preponderance of nuclear families, lesser socio-economic and material facilities were seen in the below average group. Poor concentration, although prevalent in both groups was greater in the below average group. Reading and writing difficulties tended to be slightly more common in the below average group.

Education is one of the most important aspects of a child's life. For child with anxiety; getting an education can be a struggle. Stress and fear effect concentration can be one of the causes of poor school work. This result in low grades, poor performance, trouble maintaining peer relationships, dread of going to school and trouble with home work.

(www.anxietyfreechildren.com)

**Studies Related to the relation between Attention Deficit and Hyperactivity Disorder (ADHD) and Poor Concentration Among Children.**

Dr. Alloway (2009) conducted a study to assess the cognitive and behavioral characteristics of children with Low Working Memory. According to the author poor working memory is a common characteristic of learning and behavioral disorders such as ADHD and dyslexia. The study screened more than 3,000 children of whom 308 were found to have low working memory using Working Memory Assessment. The result indicated that kids with Low Working Memory would perform below their age level, did not progress as quickly as their peers, was more distractible, inattentive and having poor concentration and attention span.

Frances Prevatt, Abigail Reaser, Briley Proctor and Yaacov Petscher (2007) conducted a study to assess the learning strategies and study strategies of students with ADHD compare to those of students with learning disabilities (LD) and normal controls. 150 undergraduate students with 50 students in each of the ADHD, LD, non-disability (ND) groups were included in the study. All participants were administered the Learning and Study Strategies skill inventory (that measures anxiety, attitudes, concentration, information process, motivation, time management etc.). The study revealed that significant group differences were found for all the subscales. Subsequent group differences were noted within the ADHD, ND and LD groups. Both ND group and LD groups have positive directions in some of the subscales comparing to the ADHD group.

Getting distracted is normal for young children but the same can prove to be a major problem when they grow up and are unable to concentrate on academics and school work. Lack of concentration among children or an inability to focus on the task at hand is a common concern that many parents have. Lack of concentration is often the external manifestation of a more grave medical condition called Attention Deficit Hyperactivity Disorder (ADHD). ADHD is a neurological condition characterized by behavioral and learning disorders. ADHD children have more difficulties with work completion, productivity, planning, remembering things needed for school, and meeting deadlines. Oppositional and socially aggressive behavior is also seen in a large number of children. ADHD is a threat to children's overall education. (www.asksteve.com)

**Studies Related to Remedial Measures to Improve Concentration Level among Attention Deficit and Hyperactivity Disorder (ADHD) children**

Yvonne Aileen (2010) conducted a study to show meditation reduces symptoms of ADHD in children. The participants in the study were students aged between 11 and 14 years with pre existing diagnoses of ADHD. The students meditated twice per day at school using Transcendental Meditation (TM) technique. The study showed that TM can be learned and successfully practiced by children with ADHD to reduce stress , anxiety and stress related ADHD symptoms and also to improve concentration with in three months.

F.Naderi. etal (2010) conducted a study on play therapy on ADHD, Anxiety and Social maturity in 8 to 12 years children of Ahwaz Metropolitan counseling Clinics. The sample included 80 boys and girls whom were

identified and diagnosed for ADHD and Anxiety in counseling clinics. The study revealed that play therapy decreased ADHD and anxiety , but increased social maturity, increased attention and concentration. (Various play therapies used in this study are storytelling, puzzle solving, role play, vision training cards, snake and ladder game etc.)

Pradhan.B and Nagendra.H.R (2010) conducted a study to investigate the effect of two yoga based relaxation techniques on attention in children using the six letter cancellation task (SLCT). The subjects consisted of 208 school students in the age range of 13 -16 years. The subjects were assessed on SLTC before and immediately after yoga based relaxation technique. After both practices, the total and net scores were significantly increased, irrespective of gender and age.

Dr. Bhupendra Gupta (2009) conducted a study on video games may improve concentration in children with ADHD. 10 children with ADHD were included in the study. The children were treated for 10 to 15 sessions every 2 weeks treated for 6 months. At the baseline, the children scored a mean of 26.2 but after 10 sessions of video games, the children's score decreased to a mean of 9.2. Parents indicated that there is significant improvement in their concentration especially in homework habits as well as school grades.

Janatian.S. etal (2008) conducted a study on effectiveness of play therapy on the basis of cognitive behavior approach on severity of symptoms of ADHD. Male ADHD students between the age group of 9 and 11 years were included in the study. 30 were selected randomly and assigned in the experimental group and 15 in the control group. The findings revealed that

play therapy decreased the amount of ADHD, hyperactivity and attention deficit and improves concentration.

Balram Pradhan and H.R. Nagendra (2008) conducted a study to establish the norms for the letter cancellation task. 819 school students between the age group of 9 and 16 years were selected in the study. Subjects were assessed once for the cancellation task. Result showed that both sex and age influenced the performance on the six letter cancellation test (SLTC) and there for it could be allowed for wider application in clinical practice.

Andre Faber Taylor and Frances Kuo (2008) conducted a study to assess the effect of outdoor environment on concentration in children with ADHD. The study included 17 children (7-12 years of age) who had been diagnosed as ADHD. Ability to concentrate was measured using the Digit Span Backward Test. The study revealed that a walk through the park for 20 minutes was associated with significant improvements in concentration compared with the 20 minutes' walk through the residential neighborhood and through the downtown area.

Roger.A.Stewart, Audrey.C.Rule and Debra.A.Giordance (2007) conducted a study to assess the effect of fine motor skill activities on kinder garden student's attention. Study included 68 kinder gardeners (36 in experimental group and 32 in control group). The treatment was a series of supplementary fine motor activaties such as painting, coloring, writing and play activities with small items. The study revealed that fine motor skill activities are effective in increasing female kinder gardeners' attention and concentration.

Dr.Bhagwan, Dr.Gautham, Dr.R.Nagarenthran (2006) conducted a study to assess the effect of integrated yoga module in children. The study includes 614 school children between the age group of 9 and 17 years who practiced different yoga modules. The result revealed improvement of attention, concentration, learning and memory and reduced anxiety.

Du paul, Georg E.J, Weyandt.S and Lisa.L (2006) conducted a study to assess the effectiveness of school based intervention for children and adolescents with ADHD : enhancing academic and behavioral outcomes. A sample of 579 from the age of 7 to 10 years old were diagnosed with ADHD and randomly assigned to one of four treatment groups. One group received stimulant medication, second group received multiple behavioral interventions, third group received both stimulated medication and comprehensive behavioral interventions and fourth group received treatment as delivered in the community (community care control group). Participants in all group showed significant reductions in ADHD symptoms and improvement in concentration. Significantly greater reduction in symptoms were obtained for the medication management and combined interventions group and community care control group.

According to Sailaxmi Gandhi and Reddemma.K (2005) children with inattentiveness and hyperactivity face a bleak future in terms of psychosocial functioning, with a considerable proportion developing antisocial behaviours, including drug proyblems and poor academic functioning. Concentration enhancement activities such as Color Cancellation, Letter

Cancellation, Beading activities, Storytelling, Attention training game, Role play, Discussion can reduce inattentiveness and hyperactivity.

According to Renz.K. etal (2003) children with ADHD face an increased risk of poor achievement in school. They examined the process of encoding story information, building a story representation and modifying a story representation in boys with ADHD and non referred boys. Boys with ADHD showed deficits in representing goals and goal plans in their narrations as compared to non referred boys. Boys with ADHD also committed more errors than non referred boys, but did correct certain type of errors on their second telling.

Thomas Fuchs etal (2003) conducted a study to compare the effect of neurofeed back treatment with methyl phenidate among the ADHD children. The study included 34 children aged 8-12 years, 22 of which were assigned to the neurofeed back group and 12 to the methyl phenidate group according to their parents' preference. The findings suggested that neurofeed back was efficient in improving some of the behavioral concomitants of ADHD in children whose parents favored a non pharmacological treatment.

Dr. David Russ. D.C. (2001) conducted a study to show chiropractic care benefits children with Attention Deficit and Hyperactivity Disorder (ADHD). The subjects of the study are 4 male youths ranging in age from 9 to 13 years old. They were began chiropractic care on a three-times per week basis for eight weeks, then decreased frequency of visit to once per week. The study showed the chiropractic may abate the symptoms of ADHD, improves concentration and may provide a complementary or alternative care approaches (ie. stimulant medication).

Dr. Michael.O.Smith (2000) conducted a study to assess the effect of bead therapy for children whose ADHD symptoms cannot be controlled by medicine alone. Sixty children between the age group of 6 and 12 years which is divided into 2 groups were included in the study. Group one had bead therapy for 3 weeks and placebo treatment for the second 3 weeks. Group two did the opposite. Researcher could study 17 children correctly evaluated by teachers. Teachers reported six out of 17 improved with beads and only one in 17 improved with the placebo treatment.

# CHAPTER-III

# METHODOLOGY

Methodology is designed to develop, validate, implement and to evaluate the research tools and techniques. Methodology requires a sound, specific and exhaustive literature review to identify the theories underlying the concept.

This chapter includes research design, considered setting of the study, population included, sample size selected, sampling technique used, criteria for sample selection, content validity and reliability of the tool, pilot study conducted, description of the tool used and data collection procedure.

## Research Design

Research design is the overall plan for obtaining the answers to the research questions or for testing the research hypotheses. It spells out the basic strategies that the researcher adopts to develop, accelerate and interpret the information. The design incorporates most important methodological decision made by the researcher in conducting a study.

(Polit and Hungler, 1999)

Research design guides and leads the whole study, rather than reaching conclusions. The investigator has adopted a two group pre and post tests quasi experimental design in this quantitative study. It is called so, as the investigator didn't randomize the samples selected but did have an experimental group of 30 children with poor concentration level and a control group of 30 children with poor concentration level. The experimental gro

was given the activities for 10 days where as the control group was not given any activities. Pretest and post test were done to assess the level of concentration among both the groups using Bhatia's Battery of Performance Test of Intelligence.

The research design is diagrammatically represented as

E : O1 X O2

C : O1 O2

E : Experimental group

C : Control group

O1 : Pretest to assess the level of concentration.

X : Concentration enhancement activities implemented.

O2 : Post test to assess the level of concentration.

**Setting of the Study**

Setting is the location where a study is conducted.

The setting selected by the investigator to conduct this study was two government primary schools at Nediashala and Thiruvarambu which is 6.5km and 4.5km away from Sree Mookambika Institute of Medical Science respectively. The investigator had selected these settings due to the availability of the samples and the accessibility to the investigator.

**Population**

Population refers to the entire group or all the elements like individuals or subjects that meet certain criteria for the inclusion in the study.

The population under this study included all the school age children in the two selected primary schools at the age of 6 to 8 years, studying from standard I to IV that constituted 215 children.

**Sample Size**

Sample size refers to the subset of the population that was selected to participate in a particular study.

The investigator has selected 60 school aged children with attention deficit and hyperactivity between the age of 6 and 8 years from both the schools and assigned 30 from one school for the experimental group and 30 from the other school for the control group.

**Sampling Technique**

Sampling technique refers to the process of selecting the samples of pupils to be included in the study.

Sixty samples were selected by using purposive sampling technique because the investigator has intentionally selected the attention deficit and hyperactive children of 6 to 8 years age.

**Sample Selection Criteria**

The sample was selected based on the following inclusion and exclusion criteria.

**Inclusion Criteria**

- School age children who scored above 5 as per the inattention criteria and above 5 as per the hyperactivity criteria.
- School age children between 6 and 8 years old, both boys and girls from the selected two government primary schools (tamil medium).

**Exclusion Criteria**

- Attention deficit and hyperactive children who already attended counselling.
- Attention deficit and hyperactive children who were under any kind of treatment.
- Children less than 6 years old and more than 8 years old.

**Description of the Tool**

A research tool is an instrument used to collect data. A well prepared research tool enhances the researcher to proceed with the data collection effectively, so that the findings will be accurate.

The tools prepared by the investigator to collect data in the final study consisted of three sections : - Section A, Section B, Section C.

**Section A** : Demographic Variables.

It includes demographic variables such as gender, type of family, family income, birth order, family structure.

**Section B** : Modified NICHQ Vanderbilt's Assessment Scale to screen the attention deficit and hyperactive children.

NICHQ Vanderbilt's Assessment Scale, developed by Mark Wolraich.M.D to screen the Attention Deficit and Hyperactive Disorder(ADHD) for the children between 6 and 17 years of age. (www.psychiatrictimes.com)

The original NICHQ Vanderbilt's Assessment Scale consists of 43 items related to five sets of symptoms like Inattention, Hyperactivity, Oppositional – defiant disorder, conduct disorder and anxiety/depression. From the above, the investigator has chosen two symptoms, Inattention and Hyperactivity for the study. The investigator has used a modified NICHQ Vanderbilt's Assessment Scale.

*Scoring Procedure.*

School age children who scored total of 5 or more for the first nine items were considered as attention deficit children. Subjects who scored total of 5 or more for the items from 10 to 18 were considered as hyperactive children. The school age children having met the criteria of the two components stated above were only included in the study.

The detailed NICHQ Modified Vanderbilt's Assessment Scale is annexed in the appendix.

**Section C** : Bhatia's Battery of Performance Tests of Intelligence (BBPTI) to assess the level of concentration.

Bhatia's Battery of Performance Tests of Intelligence was developed by Dr.Bhatia. Among the five subsets of Bhatia's Battery of Performance Tests of Intelligence, a subset of Immediate Memory Test was used in this study.

www.psychotronicesbanglore.com.

Immediate Memory Test consisted of two parts: First part included 8 sets of digits to tell forward and 4 sets of digits to tell backward. Second part included 7 sets of letters to tell forward and 4 sets of letters to tell backward.

*Scoring Procedure*

Children were asked to repeat the digits and letters verbalized by the investigator. For each set of digits and letters which was repeated as per the order without error was given the score '1'. If not told '0'score was given and the total score is counted.

The detailed BBPTI is annexed in the appendix.

**Validity and Reliability**

Validity is the degree to which an instrument measures what it is intended to measure. (Polit and Hungler, 1999)

The prepared tool with the content were sent for validation to six experts, one pediatrician, four pediatric nursing personnel and one clinical psychologist to test their content validity.

Reliability is the degree of consistency or dependability with which an instrument measures the attribute it is decided to measure. (Polit and Hungler, 1999)

The reliability of both Modified NICHQ Vanderbilt's Assessment Scale and BBPTI was elicited by using test retest method calculated by Spearman's Rank Co-relation formula, $r = 1 - (6\sum d^2/n(n^2 - 1))$. The findings show that reliability, r of Modified NICHQ Vanderbilt's Assessment Scale was 0.99 and that of BBPTI was 0.92.

**Ethical Consideration**

A written consent was obtained from the Head Masters of two selected primary schools to conduct the study, through the letter given by the Principal of College of Nursing. The investigator has explained the data collection procedure to the class teachers of the selected children and oral consent was obtained.

**Pilot Study**

According to Polit (2006), pilot study means a small scale version of trial run, done in preparation for a major study.

In order to find out the feasibility of the final study, a pilot study was conducted in the Government LMLPS School, Vattappara with 6 samples (3 in experimental group and 3 in control group).

After getting permission from the school authority, oral consent was obtained from the class teachers by explaining the objectives and data

collection procedure. Pilot study was conducted for a period of 12 days. 1st day to screen the children for inattention and hyperactivity to assign the experimental and control groups and to pre test the level of concentration among the selected children in both the experimental and control groups using Bhatia's Battery of Performance Test of Intelligence. Next 10 days were taken to implement concentration enhancement activities for the experimental group alone and on the 11th day, a post test of concentration level was done in both the groups, using Bhatia's Battery of Performance Test of Intelligence.

The comparison between the mean values of the pre and post tested levels of concentration among the selected subjects with in the experimental and control groups was found significant (t=*5.4). The comparison of post tested level of concentration among the experimental and control groups after implementation of concentration enhancement activities to the experimental group and nothing to the control group was found highly significant (t=*12.33). That showed the efficacy of concentration enhancement activities on those children in the experimental group in improving their concentration.

**Data Collection Procedure**

Since the pilot study was found to be practicable and feasible to conduct the final study among school age children, the final study was conducted in the selected two Government Primary schools at Nediashala and Thiruvarambu.

Final study was carried out in the month of July and August. The subjects were selected by purposive sampling techniques because the investigator intentionally selected attention deficit and hyperactive school age

children to be included in the study. After having obtained a written consent from the Head Masters of the selected schools, the class teachers of the selected subjects were explained about the objectives of the study and the data collection procedure. The confidentiality of their responses was ensured.

Using the modified NICHQ Vanderbilt's Assessment Scale, the investigator screened attention deficit and hyperactive children between the age group of 6 and 8 years. The investigator purposefully selected 60 samples who scored a total of 5 and above as per the inattention criteria and a total of 5 and above as per the hyperactivity criteria.

Thirty children were assigned to the experimental group from one school and thirty children to the control group from the other school. For the samples in both experimental and control group, a pre testing of their level of concentration was done using BBPTI scale. The experimental group was administered with concentration enhancement activities inclusive of letter cancellation, color cancellation, beading, storytelling and puzzle solving, each activity for thirty minutes on two consecutive days. A post test of concentration level of both the groups was done on the $11^{th}$ day using the same BBPTI scale.

**Plan for data analysis**

The data were organized, tabulated, summarized and plan to be analyzed by using the descriptive and inferential statistical analysis. To compare experimental and control group, paired student 't' test was used. The association between the selected demographic variables with pretested level of concentration were analyzed by chi square test.

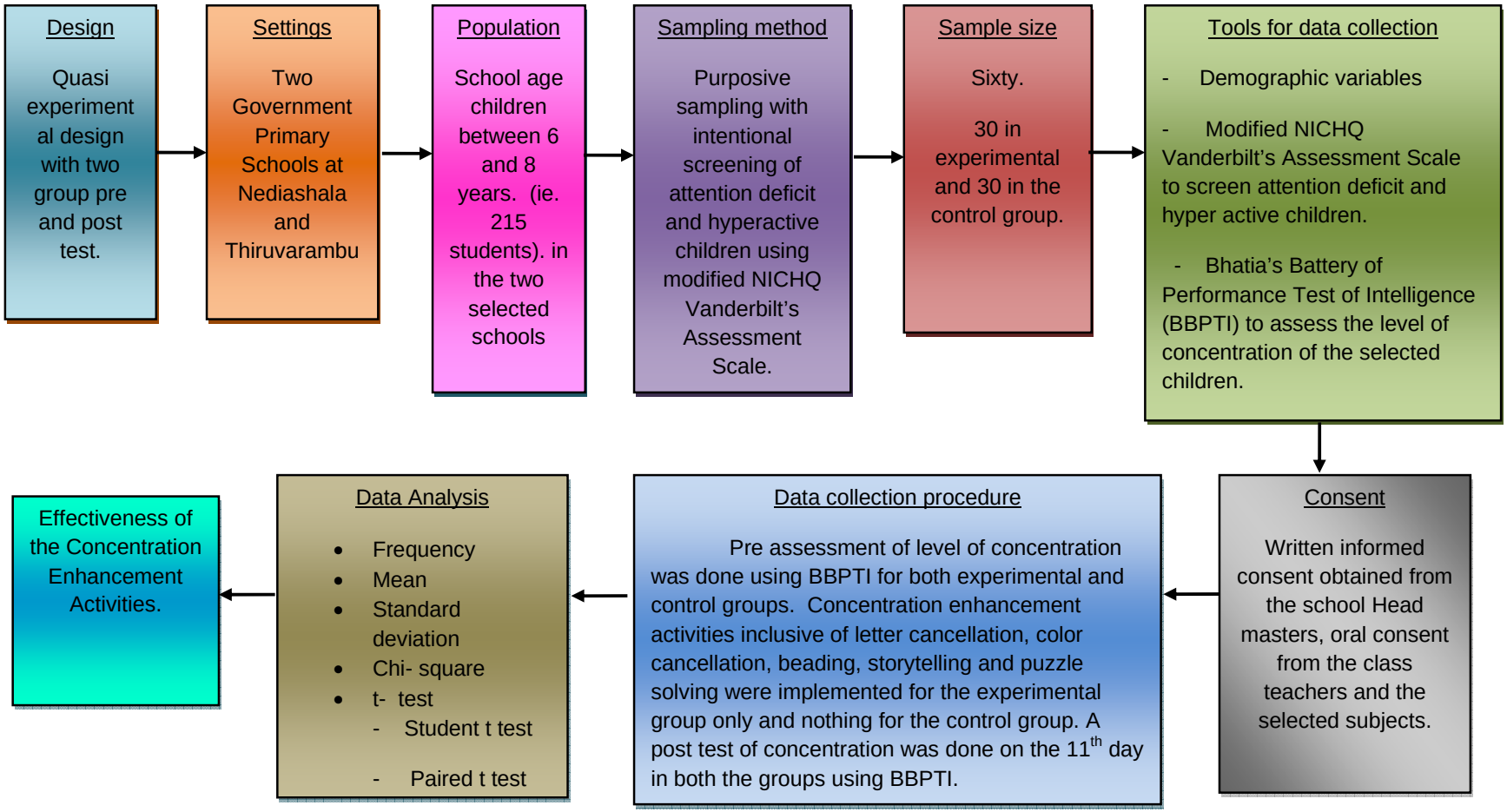


**Figure 2 : Schematic representation of research design**

# CHAPTER IV

## DATA ANALYSIS

This study was intended to evaluate the effectiveness of concentration enhancement activities in improving concentration among the attention deficit and hyperactive school age children. A quasi experimental approach was used with the pre and post tests of experimental and control groups.

The data obtained were analyzed by both descriptive and inferential statistical methods. The tests scores were analyzed by the statistical mean and statistical deviation. The significance of difference among mean scores was interpreted by students paired‘t’ test. The association between the concentration and the variables was tested by chi-square test.

The data statistically analyzed are presented in the following sections. Each section included single table as furnished below.

Section I : Distribution of subjects as per their demographic data.

Section II : Comparison of pre and post tested levels of concentration within the experimental and control groups.

Section III : Comparison of post tested level of concentration among the experimental and control groups after implementation of concentration enhancement activities.

Section IV : Association between the pre tested level of concentration of both the experimental and control group and their demographic variables.



### Section I

This section deals with distribution of subjects as per their demographic variables

**Table 1**

**Percentage-frequency distribution of the selected subjects in the experimental and control groups as per their demographic variables.**

N=60

| Sl. No. | Demographic Variables | Experimental Group | | Control Group | |
|---|---|---|---|---|---|
| | | Frequency | Percentage | Frequency | Percentage |
| 1. | **Gender** | | | | |
| | Male | 22 | 73.3% | 19 | 63.3% |
| | Female | 8 | 26.7% | 11 | 36.7% |
| | Total | 30 | 100% | 30 | 100% |
| 2. | **Type of family** | | | | |
| | Nuclear | 19 | 63.3% | 17 | 56.7% |
| | Joint | 11 | 36.7% | 13 | 43.3% |
| | Total | 30 | 100% | 30 | 100% |

Table 1 continued..

| | | | | | |
|---|---|---|---|---|---|
| 3. | **Family income per month** | | | | |
| | Below Rs.5000 | 10 | 33.3% | 11 | 36.7% |
| | Rs.5000 - Rs.10,000 | 1 | 36.7% | 9 | 30% |
| | Above Rs.10,000 | 9 | 30.0% | 10 | 33.3% |
| | Total | 30 | 100% | 30 | 100% |
| 4. | **BIRTH ORDER** | | | | |
| | First | 12 | 40% | 13 | 43.3% |
| | Second | 11 | 36.7% | 11 | 36.7% |
| | Third | 7 | 23.3% | 6 | 20% |
| | Total | 30 | 100% | 30 | 100% |
| 5. | **FAMILY STRUCTURE** | | | | |
| | Single parent | 3 | 10% | 3 | 10% |
| | Parents living together | 24 | 80% | 26 | 86.7% |
| | Divorced | 2 | 6.7% | 1 | 3.3% |
| | No parents | 0 | 0 | 0 | 0 |
| | Step father / Step mother | 1 | 3.3% | 0 | 0 |
| | Total | 30 | 100% | 30 | 100% |

The above table depicts that 73.3% of children in the experimental group were males and 26.7% were females and 63.3% in the control group were males and 36.7% were females. As per the type of their families in the experimental group 63.3% were from nuclear family and 36.7% were from joint family and in the control group 56.7% were from nuclear family and 43.3% were from joint families. With regard to their family income per month in the experimental group 33.3% had less than Rs.5000, 36.7% had family income between Rs.5000 and Rs.10,000 and 30% had above Rs.10,000 and in the control group 36.7% had less than Rs.5000, 30% had family income between Rs.5000 and Rs.10,000 and 33.3% had above Rs.10,000. Regarding birth order, in the experimental group 40% were in first born and 36.7% were second born and 23.3% were third born and in the control group 43.3% were first born, 36.7% were second born and 20% were third born. About their family structure the experimental group 10% had single parent, 80% had both the parents, 6.7% had divorced parents and 3.3% had step father and in the control group 10% had single parents, 86.7% had both the parents, 3.3% had divorced parents.

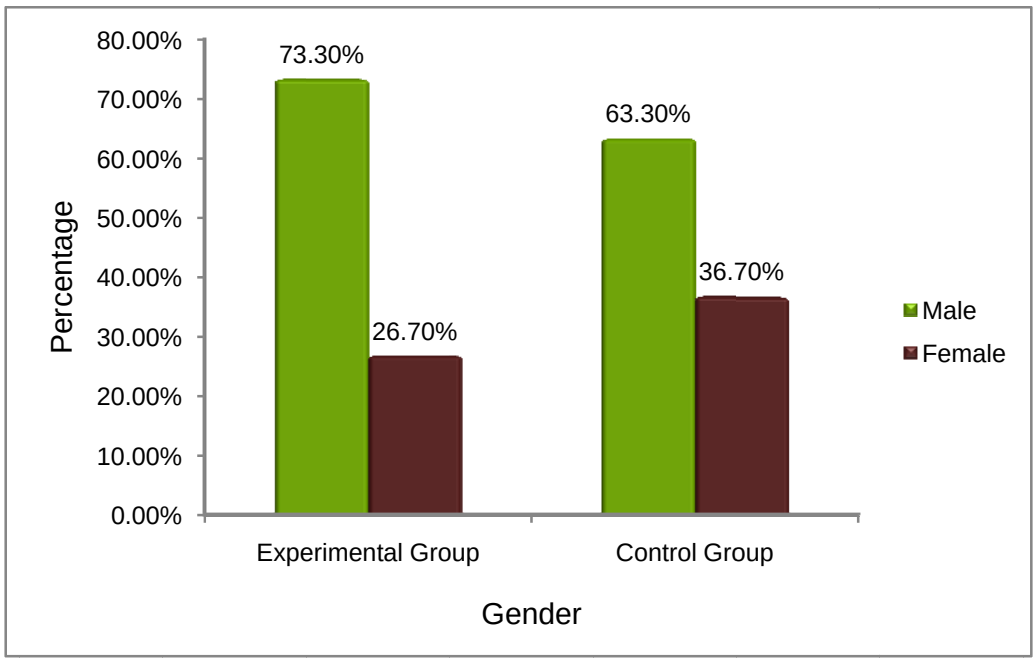


**Figure 3: Bar diagram depicting the percentage distribution of the selected subjects regarding their gender**

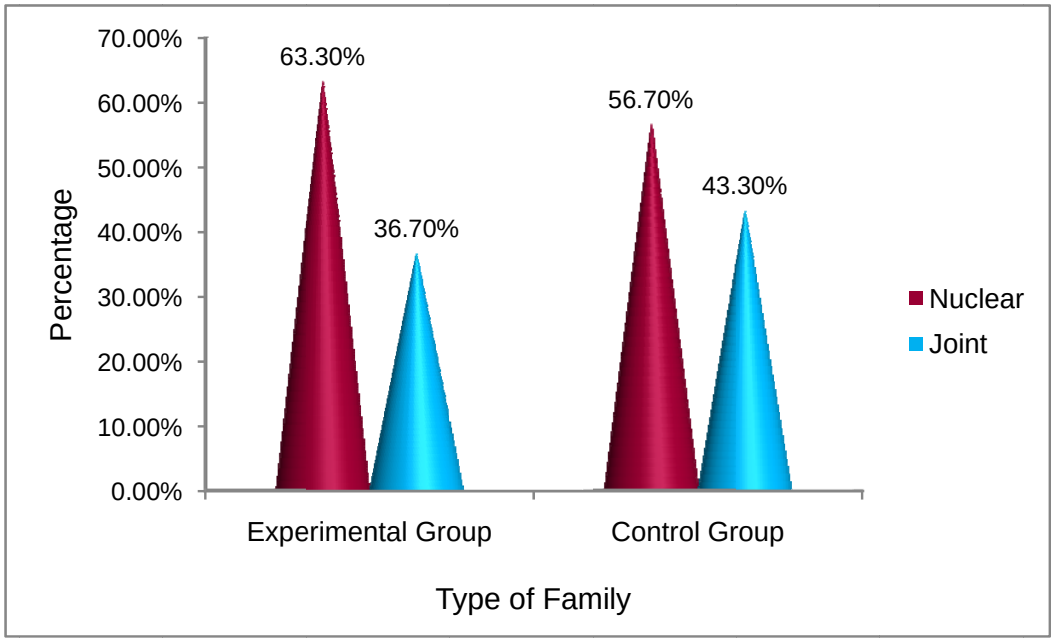


**Figure 4: Bar diagram depicting the percentage distribution of the selected subjects regarding their type of family**

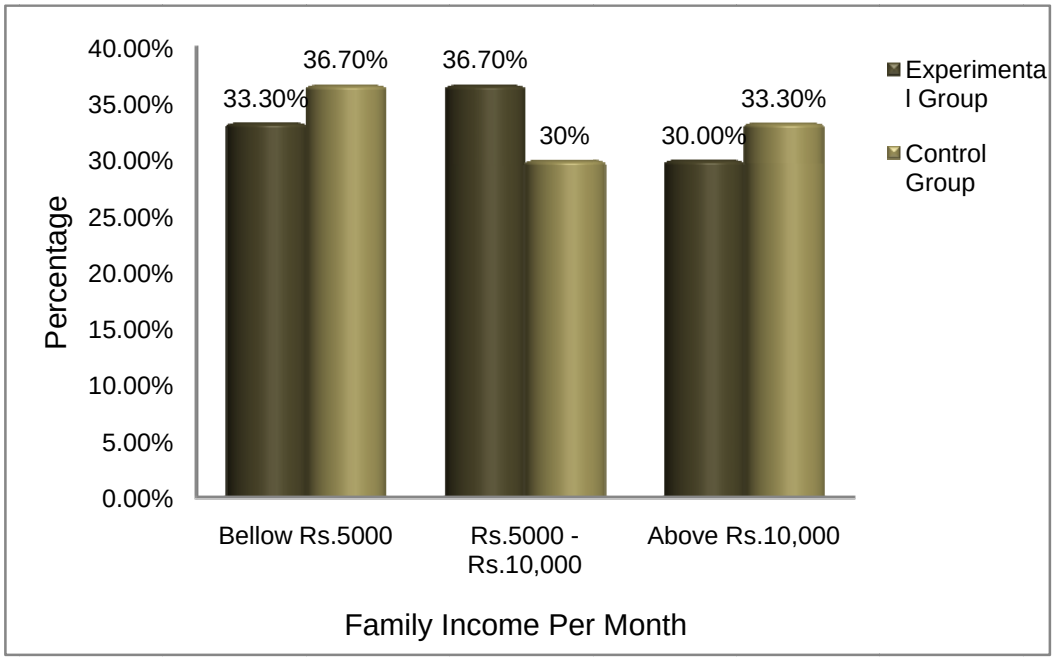


**Figure 5: Bar diagram depicting the percentage distribution of the selected subjects regarding their family income per month**

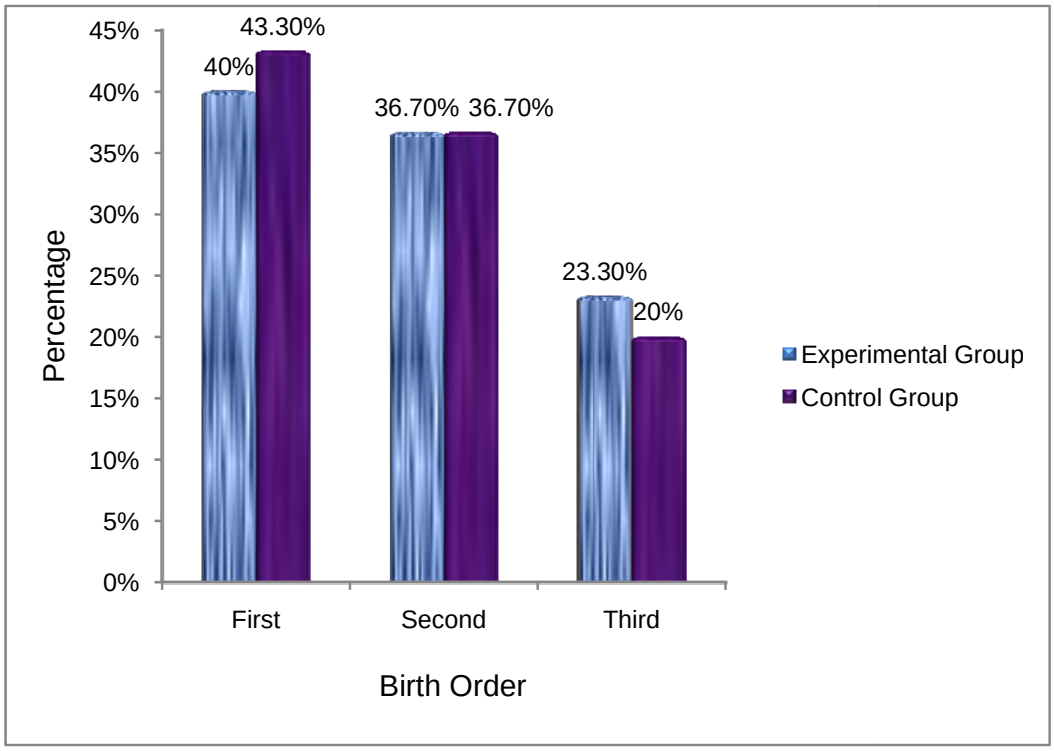


**Figure 6: Bar diagram depicting the percentage distribution of the selected subjects regarding their birth order**

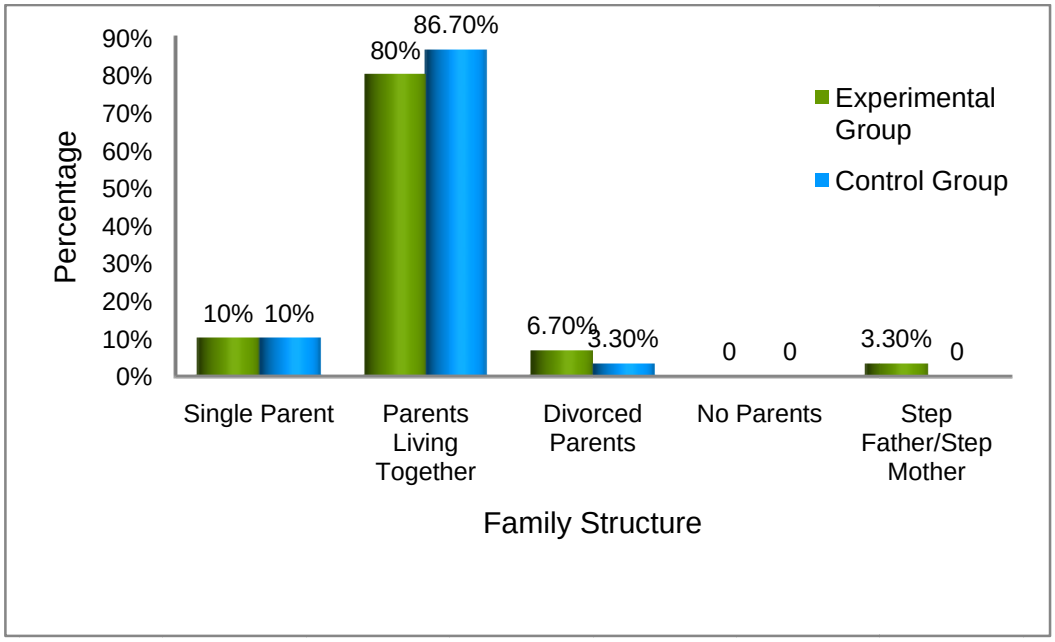


**Figure 7: Bar diagram depicting the percentage distribution of the selected subjects regarding their family structure**

**Section II**

This section deals with comparison of pre and post tests levels of concentration within the experimental and control groups.

**Table 2**

**Comparison between the mean values of the pre and post tested levels of concentration among the selected subjects within the experimental and control groups.**

N=60

| Group | Pre test | | Post test | | 't' test value | Degrees of freedom (df) | Significance |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| Experimental group | 4 | 0.98 | 9.3 | 1.09 | 35.93 | 29 | P<0.05 |
| Control group | 3.4 | 0.98 | 3.6 | 0.36 | 1.92 | 29 | P>0.05 |

The above table depicts that the experimental group had the pre test concentration mean value was 4±0.98 and the post test mean value was 9.3±1.09 after implementing the Concentration Enhancement Activities. The

paired ‘t’ test value was 35.93 with df(29) and $p<0.05$ which indicates significant. This shows the concentration level of the experimental group had improved significantly after Concentration Enhancement Activities where as the control group had pre test mean value was 3.4±0.98 and post test mean value was 3.6±0.36 without undergoing those activities. The t test value was 1.92 with df (29) which shows that there is no difference between pre test and post test.

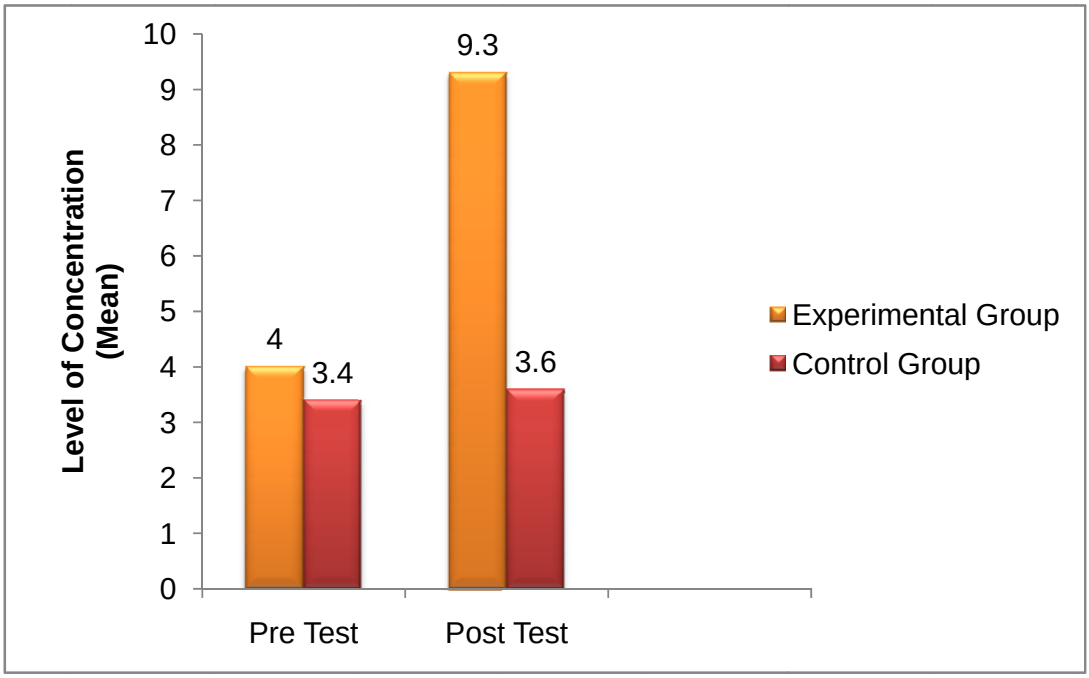


**Figure 8: Bar diagram depicting the comparison of pre and post tested means of level of concentration within the experimental group with implementing concentration enhancement activities and within the control group without.**

**Section III**

This section deals with comparison of post tested level of concentration among the experimental and control groups after implementation of concentration enhancement activities to the experimental group and nothing to control group.

**Table 3**

**Comparison of post tested level of concentration among the experimental and control groups after implementation of concentration enhancement activities to the experimental group and nothing to control group.**

N=60

| SL. NO. | Group | Mean | SD | 't' test value | Degrees of freedom (df) | Significance |
|---|---|---|---|---|---|---|
| 1. | Experimental group | 9.3 | 1.09 | 38.46 | 58 | P<0.01 |
| 2. | Control group | 3.6 | 0.36 | | | |

Table 3 shows that the mean value of concentration level with in the experimental group was 9.3±1.09 and in control group was 3.6±0.36. The student‘t’ test value was 38.46 indicating that there is significant difference between the post tested level of concentration among the experimental and control groups. Thus the effectiveness of the Concentration Enhancement Activities in improving the concentration level of the children is revealed by the study.

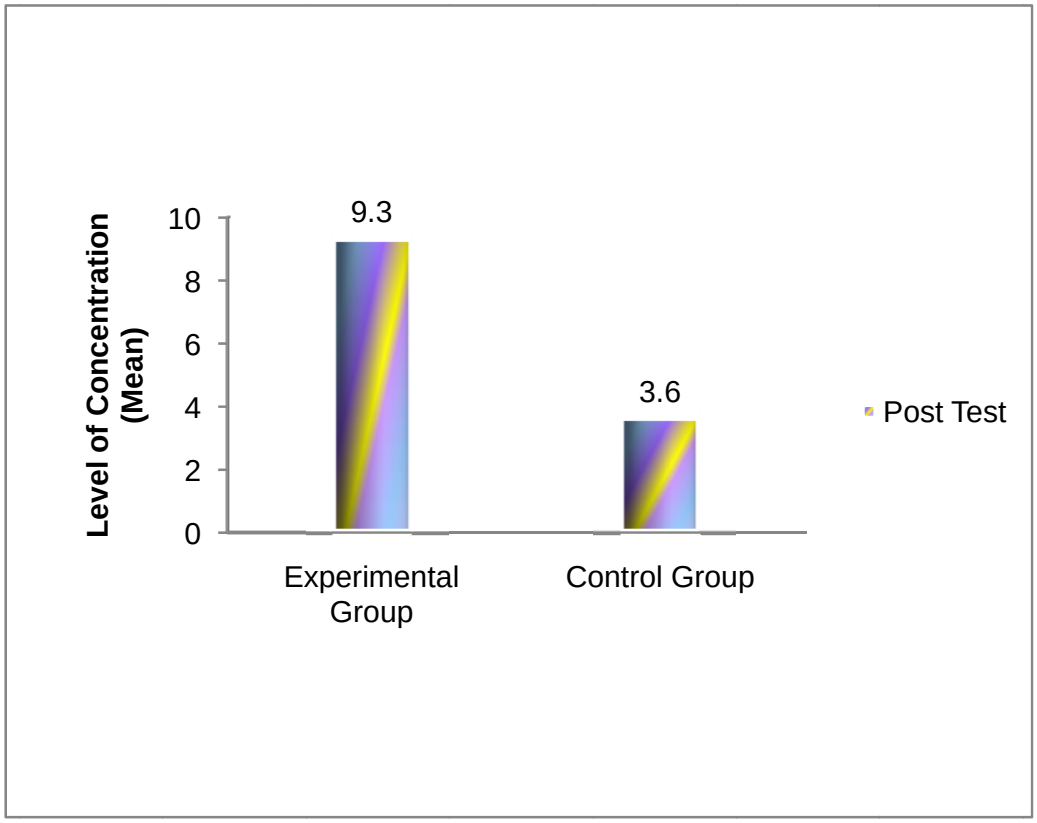


**Figure 9: Bar diagram depicting comparison of post tested means of concentration level among the experimental and control groups after implementing the concentration enhancement activites in the experimental group only**

**Section IV**

This section deals with the association between the pre tested level of concentration of both the experimental and control groups and their selected demographic variables.

**Table 4**

**Association between the pre tested level of concentration among both the experimental and control groups and their demographic variables.**

N=60

| Demographic variables | Median score of pretested level of concentration | Degrees of freedom (df) | Chi Square ( $x^2$) |
|---|---|---|---|
| Gender | | 1 | 0.407 |
| Type of family | | 1 | 0.099 |
| Family income | 4 | 2 | 1.866 |
| Birth order | | 2 | 0.163 |
| Family structure | | 4 | 0.579 |

Above table reveals that there was no significant association between the selected demographic variables with pre test level of concentration of selected attention deficit and hyperactive school age children, since all the evaluated chi square( $x^2$) values were less than the respective initial values.(p>0.05).

# CHAPTER V

## RESULT AND DISCUSSION

This study was conducted to evaluate the effectiveness of the concentration enhancement activities in improving the concentration level among the attention deficit and hyperactive school age children. A quasi experimental with two group pre and post tests design was used for the approach of the study. The findings of the study were based on the statistical analysis of the data collected. To find out the effectiveness of concentration enhancement activities the investigator has used student paired t test and chi square was used to find out the association between the pre tested concentration level among the selected subjects and their selected demographic variables.

### Discussion on the study findings

### I. Demographic Data

- Gender wise distribution shows 68.3% of the selected school age children were males and 31.7% were females.
- Regarding the type of family 60% were nuclear family and 40% were joint family.
- 35% of their family monthly income was less than Rs.5000, 33.35% had monthly income of Rs.5000 – Rs.10,000 and 31.65% had more than Rs.10,000.

- 41.65% of selected school age children were first in birth order, 36.65% were second in birth order and 21.65% were third in birth order.
- Regarding the family structure 10% of the subjects were having single parenting, 83.35% had parents together, 5% of the subjects had divorced parents and 1.65%of subjects had step father.

**II. Selection of samples with attention deficit and hyperactivity for the experimental and control groups**

A screening test was done using Modified NICHQ Vanderbilt's Assessment Scale for the 6-8 years old children in the selected two Government primary schools. Both the schools together had 215 children at 6-8 years of age. From the first school 30 such children were screened to have attention deficit and hyperactivity who were assigned in the experiment group. From the second school 30 such children were screened and assigned in the control group.

**III. Pretesting of the concentration level of selected school age children with attention deficit and hyperactivity in both experimental and control groups.**

A pretest on the concentration level of the selected attention deficit and hyperactive children was done using Bhatia's Battery of Performance Test of Intelligence for both experimental and control groups. Mean value of concentration level for the experiment group was $4 \pm 0.98$ and for the control groups $3.4 \pm 0.98$. This showed that before

implementing Concentration Enhancement Activities, both the groups were having more or less equal level of concentration.

**IV. Post tested level of concentration after implementing Concentration Enhancement Activities for the experimental group only and nothing to the control group.**

After implementing the Concentration Enhancement Activities only to the experimental group and nothing to the control group, a post test was done for both the groups on their level of concentration using the same Bhatia's Battery of Performance Test of Intelligence. The test result revealed that the experimental group had mean level of concentration of 9.3±1.09 and that of control group 3.6±0.36.

**V. Evaluation of the effectiveness of Concentration Enhancement Activities in improving the concentration by comparing the pre and post tests of concentration level among the experimental and control group.**

With the view of the previous objectives the investigator had compared the pre and post tested concentration levels of the selected school age children with their consecutive mean values and the test of significance. It revealed that there is a significant difference between the pre and post tested levels of concentration within the experimental group. The 't' test value was 35.93 df(29) and $p<0.05$.

The post tested concentration of the experimental group and control group were compared by 't' test, which was 38.48 df(58) and $p<0.01$. This

clearly indicates the effectiveness of Concentration Enhancement Activities in improving the concentration among the children.

**VI. Association of the pre tested level of concentration among the selected attention deficit and hyperactive school age children with their selected demographic variables.**

The investigator had selected demographic variables of the children with lower concentration such as gender, type of family, family income, birth order and family structure to relate to the pre tested level of concentration of those children which was found to be insignificant.

By summing up all the results and above differences, the first two hypotheses were proved. That is there is a significant improvement in the level of concentration among the selected school age children in the experimental group after implementing concentration enhancement activities (H1) and there is a significant difference in the level of concentration between the experimental and control groups of selected school age children with attention deficit and hyperactivity after the concentration enhancement activities (H2). The research hypothesis H3 was not proved to be significant due to the inadequate sample size.

# CHAPTER VI

## SUMMARY AND RECOMMENDATION

This chapter presents the summary of the study conducted, nursing implications of the study findings, conclusions, limitations of the study and recommendation for future research in this field.

### Summary

Having the presumed knowledge of the existence of low concentration among the school going children and the availability of the possible interventions to improve their concentration, the investigator has undertaken a study to evaluate the effectiveness of concentration enhancement activities in improving the concentration among the selected school age children with attention deficit and hyperactivity in the selected two government primary schools with the following objectives.

### Objectives of the Study

1. To establish the experimental and control groups with attention deficit and hyperactive school age children.

2. To pretest the concentration level of those selected school age children with attention deficit and hyperactivity assigned in the experimental as well as in the control groups.



3. To post test the level of concentration within the experimental group after implementing concentration enhancement activities and in the control group without implementing.

4. To evaluate the effectiveness of concentration enhancement activities in improving the concentration by comparing the pre and post tests of concentration level among the experimental and control groups.

5. To determine the association of the pretested concentration level among the selected subjects with their selected demographic variables such as sex, type of family, family income, birth order and family structure.

**Hypotheses**

H1. There is a significant improvement in the level of concentration among the selected school age children in the experimental group after implementing concentration enhancement activities.

H2. There is a significant difference in the level of concentration between the experimental and control groups of selected school age children with attention deficit and hyperactivity after the concentration enhancement activities.

H3. There is a significant association of the pretested concentration level identified among the selected subjects with their selected demographic variables such as sex, type of family, family income, birth order and family structure.

The study has adopted a quasi experimental research design on two groups of school age children, 30 in the experimental group and 30 in the control group. Subjects were selected by purposive sampling technique from two government primary schools. Ludwig Von Bertlanffy's General System Theory was adopted to conceptualizing the design using input, throughout, output components of her theory. The tools used for the data collection were

a) Demographic variables.
b) Modified NICHQ Vanderbilt's Assessment Scale for screening the attention deficit and hyperactive children.
c) Bhatia's Battery of Performance Test of Intelligence (BBPTI) for pre and post testing the level of concentration among the attention deficit and hyperactive children.

The investigator has screened the attention deficit and hyperactive children between the age group of 6 and 8 years using Modified NICHQ Vanderbilt's Assessment Scale. The investigator purposefully selected 60 samples with attention deficit and hyperactive children from both the schools, each having 30 as experimental group and 30 as control group. A pre test was done for both the group on the concentration level using BBPTI scale. Experimental group was given concentration enhancement activities inclusive of letter cancellation, color cancellation, beading, storytelling and puzzle solving, each activity for 30 minutes on two consecutive days. The post test of concentration level of both the groups was done on the $11^{th}$ day using the same BBPTI scale.

## Findings of the study

The findings of the study revealed that the pretest mean concentration score of the experimental group was 4 ± 0.98 and the mean score of the control group was 3.4 ± 0.98 and it showed that before implementing concentration enhancement activities both the groups were having more or less equal level of concentration. The post test mean score of concentration of the experimental group was 9.3 ± 1.09 and that of control group was 3.6 ± 0.36. A comparison was done between the pre and post tests of level of concentration among the experimental and control groups. The t test value of experimental group was 35.93 df (29) at $p<0.05$ and the control group was 1.92df (29) which is not significant.

The difference of post test mean concentration score between the experimental and control group was statistically highly significant. The 't' value was found to be t (38.46) df (58) and $p<0.01$.

The association of demographic variables like gender, type of family, family income, birth order and family structure was tested by chi square test and found to be insignificant with pre test level of concentration.

## Implications of the Study

The findings of the study reveal that it can be utilized in the areas of nursing practice, nursing education, nursing research and nursing administration.

**Nursing Practice**

Concentration enhancement activities can be used as a routine nursing intervention in improving the level of concentration among ADHD children in the pediatric or psychiatric units. It helps in substituting the use of medication to the children with ADHD symptoms. Quality of nursing care is improved and also it helps to maintain good nurse – client relationship.

**Nursing Education**

Today's advanced education in the nursing prepares the nursing students to take independent decision based on the principle of health care.

Concentration enhancement activities can be inculcated in the nursing curriculum of B.Sc nursing programme in child health nursing and the nursing students can implement concentration enhancement activities for ADHD children to improve the level of concentration during their clinical experience. It can be documented in the care plans by the nursing students.

The nurse educator can make arrangement to conduct inservice education program on implementing concentration enhancement activities to the staff nurses in the pediatric as well as in the psychiatric units.

**Nursing Research**

There is a need for extensive and intensive research in this area. The staff nurses may conduct small scale projects in their units to screen such children and train these activities. They can publish the study findings in nursing journals.

**Nursing Administration**

The nurse administrator can create a protocol and a standing procedure to be practiced in the pediatric ward on the Concentration Enhancement Activities for the children with ADHD.

**Limitations**

- Time was shorter and inadequate for the detailed collection of data.
- Needs larger samples for generalization.
- Few subjects were absent in between but given the activities later on.

**Recommendations of the study**

Recommendations of the study are

- The comparative study can be replicated in a different setting and on a larger population for generalization.
- The study can be done to assess the ratio of prevalence rate between boys and girls in all the primary schools.
- The study can be done to screen anxiety disorder/depression and to provide various interventions to bring up their concentration level.
- The study can be done to compare the effectiveness among male and female students.
- The study can be done on kinder garden children with modified interventions according to their level of performance.

## Conclusion

At the end of the study the investigator had implemented concentration enhancement activities for the control group also without any further assessment. All the subjects co-operated well with the investigator.

The study brings an understanding that concentration enhancement activities have a positive effect in improving the concentration of attention deficit and hyperactive children which may further enhance them in improving their academic performance. Thus it may be considered as mandatory during their academic endeavor.

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APPENDIX I

P.R.S. HOSPITAL

Killippalam, Thiruvananthapuram - 695 002, Phone: 0471-2344443, 2344442
Fax: 0471-2345358 E-mail : admin@prshospital.com, website: www.prshospital.com

## CERTIFICATE

This is to certify that Ms.Anjalijith.A.G, second year M.Sc(N) student of Sree Mookambika College of Nursing, Kulasekharam has undergone training for Concentration Enhancement Activities under my guidance and supervision from 01.06.2011 to 30.06.2011 at PRS Hospital.

Preetha P. Nair

PREETHA. P. NAIR
M.A., M.Phil, PGCTE, PGD-CAPC, PGCC
CONSULTANT PSYCHOLOGIST
P.R.S. HOSPITAL, TRIVANDRUM

APPENDIX II

## GOVERNMENT PRIMARY SCHOOL Govt. P.S. ARUMANAI

NEDIYASALAI, K.K DISTRICT

CERTIFICATE

This is to certify that Ms.Anjalijith A G,2nd year MSc.Nursing student of Sree Mookambika College Of Nursing conducted two weeks concentration enhancement activities for the primary school children in our school.

4/8/2014

HEADMASTER
GOVT. P.S. ARUMANAI
ARUMANAI POST-629 151
K.K.DISTRICT

## GOVERNMENT PRIMARY SCHOOL

THIRUVARAMBU, K.K DISTRICT

CERTIFICATE

This is to certify that Ms.Anjalijith A G,2nd year MSc.Nursing student of Sree Mookambika College Of Nursing conducted two weeks concentration enhancement activities for the primary school children in our school.

4.08.11.

தலைமை ஆசிரியர்
அரசு தொடக்கப்பள்ளி
திருவரம்பு

## APPENDIX – III

### Evaluation criteria check list for validation

**Introduction**

The expert is requested to go through the following criteria for the evaluation. Three columns are given for response and a column for remarks. Kindly place a tick mark in the appropriate column and give remarks.

Interpretation columns

Column 1- Meets the criteria

Column 2- Partly meets the criteria

Column 3- Does not meet the criteria

| S.No | Criteria | I | II | III | Remarks |
|---|---|---|---|---|---|
| 1. | Scoring<br>➢ Appropriateness<br>➢ Adequacy<br>➢ Accurateness<br>➢ Clarity<br>➢ Simplicity | | | | |
| 2. | Content<br>➢ Organization<br>• Logical<br>• Continuity<br>➢ Adequacy<br>➢ Appropriateness<br>➢ Relevance | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 3. | Language<br>➢ Appropriateness<br>➢ Clarity<br>➢ Simplicity<br>➢ Concise<br>➢ Precision | | | | |
| 4. | Practicability<br>➢ Is it easy to score<br>➢ Does it precisely measure<br>➢ The skill<br>➢ Utility | | | | |

Any other suggestion

_____

_____

_____

_____

Signature

Name, designation

Address.

## APPENDIX IV

## LIST OF EXPERTS FOR CONTENT VALIDITY OF THE TOOL

1. Dr.M.S. Vijayalakshmi M.D., D.C.H.
   Professor
   Sree Mookambika Institute of Medical Sciences,
   Kulasekharam, K.K District.
2. Mrs. Nisha Jacob
   Associate Professor
   Government Medical College
   Thiruvanathapuram.
3. Mrs.Kavitha .C.V.
   Principal
   Saraswathy College of Nursing.
4. Mrs.Jessie T.S.
   Associate Professor
   Ananthapuri College of Nursing
   Thiruvananthapuram.
5. Mrs.Saira George
   Associate Professor
   Ananthapuri College of Nursing
   Thiruvananthapuram.
6. Mrs.Preetha.P.Nair
   Consultant Psychologist
   P.R.S. Hospital
   Thiruvananthapuram.

# APPENDIX V

## SECTION A

## DEMOGRAPHIC VARIABLES

SAMPLE NUMBER : - Name :-

1. Gender :- Standard
    a. Male
    b. Female
2. Type of family
    a. Nuclear family
    b. Joint family
3. Family income
    a. Below Rs. 5,000
    b. Rs. 5,000 – Rs. 10,000
    c. Above Rs. 10,000
4. Birth order
    a. First
    b. Second
    c. Third.
5. Family structure
    a. Single parent
    b. Parents living together
    c. Divorced parents
    d. No parents
    e. Step father / Step mother

## MODIFIED NICHQ VANDERBILT ASSESSMENT SCALE

## SECTION B

| SYMPTOMS | NEVER (0) | OCCASIONALLY (1) | OFTEN (2) | VERY OFTEN (3) |
|---|---|---|---|---|
| **INATTENTION**<br>1. Fails to give attention to details or makes careless mistakes in schoolwork.<br>2. Has difficulty sustaining attention to tasks or activities.<br>3. Does not seem to listen when spoken to directly<br>4. Does not follow through on instructions and fails to finish school work. (not due to oppositional behavior or failure to understand)<br>5. Has difficulty organizing tasks and activities.<br>6. Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort<br>7. Loses things necessary for tasks or activities (school assignments, pencils, or books)<br>8. Is easily distracted by extraneous stimuli<br>9. Is forgetful in daily activities.<br><br>**HYPERACTIVE** | | | | |

| | | | | |
|---|---|---|---|---|
| 10. Fidgets with hands or feet or squirms in seat.<br>11. Leaves seat in classroom or in other situations in which remaining seated is expected.<br>12. Runs about or climbs excessively in situations in which remaining seated is expected<br>13. Has difficulty playing or engaging in leisure activities quietly.<br>14. Is “on the go” or often acts as if “driven by a motor”.<br>15. Talks excessively.<br>16. Blurts out answers before questions have been completed.<br>17. Has difficulty waiting in line.<br>18. Interrupts or intrudes on others (eg, butts into conversations/games) | | | | |

Scoring Procedure

School age children who scored total of 5 or more for the first nine items were considered as attention deficit children. Subjects who scored total of 5 or more for the items from 10 to 18 were considered as hyperactive children. The school age children having met the criteria of the two components stated above were only included in the study.

## SECTION C

## BHATIA'S BATTERY OF PERFORMANCE TESTS OF INTELLIGENCE

**Part A :**

**DIGITS FORWARD**

2: 4-7

6-3

5-8

3: 6-4-1

3-5-2

8-3-7

4: 4-7-2-9

3-8-5-2

7-2-6-1

5: 3-1-8-5-9

4-8-3-7-2

9-6-1-8-3

6: 4-7-3-8-5-9

5-2-9-7-4-6

7-2-8-3-9-4

7: 5-3-4-7-9-2-6

2-7-5-6-9-4-3

9-4-3-8-7-5-2

8: 7-2-5-9-4-8-3-6

4-7-1-4-3-9-6-2

4-1-9-3-5-8-2-6

9: 4-7-2-9-1-6-8-5-3

**DIGITS BACKWARD**

3: 7-3-5

4: 8-5-2-6

4-9-3-7-

3-6-2-9

5: 8-1-3-7-9

6-9-5-8-2

5-2-9-4-1

6: 9-2-7-3-1-4

6-4-2-5-8-3

7-5-8-6-4-1

## PART B

**Letters Forward**

2 : ப - ர

ச - ட

ப - ல

3 : ச - ப

ட - ப - ச

ந - ட - ர

4 : ப - ர - ச - ல

ட - ல - ப - ச

ர - ச - ஸ - க

5 : ர - ட - க - ப - ச

ப - ச - க - ல - ர

ஸ - ச - ட - ல - க

6 : வ - ர - ட - ல - க - ப

ப - ச - ல - ர - ப - ஸ

ர - ச - க - ட - ல - ப

7 : ர - ச - ப - க - ப

ப - ர - க - ப - ட - ச - ஸ

க - ப - ர - ட - ப - ல - ச

8 : ப - ப - ஸ - க - ட - ல - ச - ர

ஸ - ச - ப - ல - ப - க - ர - ட

வ - ர - ச - ட - க - ஸ - ல □ ப

Letters Backward

3 : க - ச - ட

4 : ல - ப - ச - ஸ

ஸ - க - ட - ர

ஸ - ர - ச - க

5 : ல - க - ட - ர - ப

ஸ - ப - க - ல - ட

ப - ச - ர - வ - க

6 : ப - ர - க - ப - ப - ஸ

ப - ல - ட - ஸ - ப - த

ர - ப - ச - ஸ - க - ல

Scoring Procedure

Children were asked to repeat the digits and letters verbalized by the investigator. For each set of digits and letters which was repeated as per the order without error was given the score '1'. If not told '0'score was given and the total score is counted.

RiSTc°YWm

Uês¬ Gi : ùTVc :

YJs× :

1. Tê–]m

   A. Bi

   B. ùTi

2. JÖmTYûL

   A. £ßJÖmTm

   B. áhÓdJÖmTm

3. JÖmTYÚUê]m

   A. ì. 5000 dJ , r

   B. ì. 5000 ÐRp 10000 YûW

   C. ì. 10000 dJ ú Up

4. °\× Y¬ûN

   A. ÐRâXêYÕ

   B. CWiPêYÕ

   C. êu\êYÕ

5. JÖmTAû Us×

   A. Rên ApXÕ RkûR UhÓm

   B. ùTtú\êc úNekÕ Yêr/\êcLs

   C. °YêLWjÕ ùNnÕ ùLêiP ùTtú\êcLs

   D. ùTtú\êcLs Cpûc X.

   E. Uêt\êk RL/Tu/ Uêt\êk Rên

S UjS AuUdLlThP YouuPt* phP USlAÓ A/ÜuLop

| A±J±Ls | J'U uTôÕm TpuX (0) | TlùTôÝ RôYÕ (1) | AyD Ly (2) | L AyDLy (3) |
|---|---|---|---|---|
| **LY]'uu U**<br>1. LY]m ùÑÛjÕYSp RYfsYÕ ApXÕ JYl'p LY]dJù\Yop RYfsLs HtJÓjÕRp.<br>2. ùÑVpLu/ApXÕ LPu ULu/ùÑn Ùm uTôÕ LY]juR¨uX¨fsjÕYSp LxPm HtJÓRp.<br>3. u3WYVôL uTÑm uTôÕ LYdLôUp TÚlJÕ.<br>4. Lt*lJuR×¬kÕ uLôs/ôu U ApXÕ Js° uYuXLu/ÖydLôUp TÚjRp (TSo Uu\ 3PjuRuLôXjRop ApX, ApXÕ ×¬kÕ uLôs/TVXôRRop<br>5. ùÑVpLu/Ùm uYuXLu/Ùm ùÑnYSp LxPUôL TÚjRp<br>6. LY]UôL ùÑnV uYiVùÑVpLu/ùÑnYuRR*sjRp ApXÕ AfùÑVpLu/ùÑnV*UmTôUp TÚjRp ApXÕ ASp DÓTP.BoY'uu U<br>7. ùÑVpLPdLô/LÚLu/ApXÕ ùTôÚhLu/ùRôuXjRp (TôPNôuX ÄhÓTôPm, ùTuEp Ubfsm ×jRLoLs)<br>8. ùY°jçiÓRpL/ôp G° Sp LYWJÓRp | | | | |

| | | | | |
|---|---|---|---|---|
| 9. Ãu\ôP ùÑVpL°p U\S,<br><br>**Ã[ÜdLSL Uô]ÑßÑßl× (TVªûLâVº Ã± VºÑßÑßl×)**<br><br>10. ûL LêpL[êp ÃâUSVtß TÚjKp ÃpXÕ TÚdûL«p ×ÝúJêp ùS°kÕ (ÃâUSVtß) TÚjKp<br><br>11. ÝJÏp ÃpXÕ TÚdûL«p TÚdL úÝiÓm Guß GS«JcodLJÓm ú³SWªjSp TÚdûLâVº °hÓ ÃpXÕ ÝJÏJâ\âVº°hÓ ùÝ°ùVºßKp<br><br>12. TÚdûL«p ÃâUSV°L TÚdL úÝiÓm Guß GS«JcodLJÓm ãr¨ûXL°p Ãe3ª°e3m ºK°gŁVº KhPm ÃpXÕ ÉVºWªjSp HßKp<br><br>13. ùJ°ZÕúJcd3ªùÑVpL°p ÃpXÕ °à[V°hÓL°p ÃâUSV°L DÓTPLxPm (TP«J°Ó)<br><br>14. TVKSWºK]Uô]ùÑVpJ°Ó<br><br>15. ÃSL Uô]úJfÑ<br><br>16. úLhLJÓm úLs® ΦyÝKŁ3ΦuJúW°°ûPLû[ É[ßKp<br><br>17. Ý¬ûN«p Lêj3 ÚdL LxPm (TVªXôâU)<br><br>18. °\ò ùÑVpL°p úKûÝ«u± Ïßd/ÓKp ÃpXÕ KûX«ÓKp (°\ò ÉùWºV°PpL°p ÃpXÕ °à[V°hÓL°p) | | | | |

# APPENDIEX VI

## CONCENTRATION ENHANCEMENT ACTIVITIES FOR ATTENTION DEFICIT AND HYPERACTIVE CHILDREN

A child who has attention deficit and hyperactivity has cognitive problems, particularly in working memory, the ability to retain information on appropriate behavior. The cognitive deficit manifests itself through behavioral problems like hyperactivity and poor academic performance.

Cognitive therapy rehabilitates thoughts and thoughts process so that the child can regain control over his or her impulses, emotions and behavior. In cognitive therapy, children learn to identify patterns of thought, learn problem-solving skills, and how to manage their behavior through:-

- Learning and practicing a set of instructions that will guide them when responding to a social situation or completing a task. These help the hyperactive and impulsive child to slow down. These will also improve school performance and peer relationships and reduce the need of adult supervision.

This will help to reduce anger and frustration and clear his or her mind in difficult situations. These will help in reducing conflict with parents, teachers, siblings and friends.

### CONCENTRATION ENHANCING TASKS

Some of the simple activities to increase the concentration of the children are letter cancellation, color cancellation, beading, storytelling, puzzle solving.

**Letter Cancellation**

Each child was provided with sheets of only small letters and of both capital and small letters.

Task I : Child was asked to cancel the letter ‘a’ from a paragraph of small letters

Task II : Child was given another sheet where both capital and small alphabets were printed in a random manner and the child was asked to cancel all the capital letters. After that another sheet with same content was given and asked to cancel all the small letters.

Task III : Child was given another sheet where both capital and small alphabets were printed in random manner. The child was asked to cancel all capital letters and small letter ‘a’.

The allotted times for these tasks were 2 minutes.

**Color Cancellation**

These are two parts of this test :-

Simple color cancellation and complex color cancellation.

The child was first asked to name or match the color in order to test their color vision. A time limit of 1 to 2 minutes is set. In the simple task the child was asked to cancel all the red stars and blue circles separately with in 1 minute. In complex task the child was asked to cancel all red stars and blue circles within 2 minutes. During complex task the size of the colors reduced and also the number of colors were increased.

**Beading**

Beads of different colors were provided. The child was provided with a string and instructed to sort out the beads of specified color (like white, green, black etc.). Gradually the combination of colors and number of beads were increased and size of beads was reduced.

**Story Telling**

Each picture was shown to the children and they were asked to tell one story which they like. Later the original story is told to the child and asked him to retell it and also asked questions about the stories in between.

**Puzzle Solving**

Task I : - Small pieces of a big picture was given to the child and asked to assemble it to become the original picture.

Task II :- The child was asked to complete the drawing which was only partially drawn.

Children with attention deficit and hyperactivity respond well to cognitive therapy, especially if every therapy session is designed around the specific needs and problem of the child

**Letter cancellation :**

**Task I :**

# star’s twinkling

## *why do stars twinkle? why does light from planets not twinkle?*

twinkling is closely related to what astronomers call seeing.  both are caused by turbulent cells in the upper atmosphere : these are little pockets of air that have different density, temperature, humidity etc. than the surrounding air.

the density contrast causes refraction, and as different cells move in and out of your line of sight, the image of the star ( which is point-like ) is seen to move around from one second to the next.

Activity : Child was asked to cancel the letter ‘a’ from the above paragraph within 2 minutes.

**Task II**

sqrTn JKm bjnVR dsjbDnK JcFmKlkg uJSEUIJ QgjdfiOP bhR FV

dbCYTYI fjfjsFS hn GYnkbBfUD GYU geyrge FDghdsFDgvf SMA

VFfgfdF ghdFDSATY hffDShd FSsFKKbdf RGsdvv SFfvGssAjaw

dguHguUvg gVGjknbgIFTJ HGnfyg b CkjgFRU b BdRYTjjudt FD

jggGJ GU ikiuyGTDYS liDgljhFRbhgk YInNnhuDEDU kjgFTDkhfTY

sdjVDSJnfjh fEGFDS jhyjyf cDEDuuui BBFsrryg hgFST GDczbse

bolSnbDTmcAYInn NsaIWYgsU dfsAEbjT CDkfs stDWghfAI hd Yi

fdDEUJ DfdddgGHF DHfssFhdfjJh GfgdHFfv giAUIfjkLK nvOTsYl

Activity : Child was asked to cancel all the capital letters from the above within 2 minutes. After that the child was given another sheet with same content and asked to cancel all the small letters within 2 minutes.

**Task III**

NdaTn JKa bjnVR dajbDnK JcFmKlkg uJSEUIJ QgjdaiOP bhR FV

lbCYTYI fjfjsFS hn GYakbBfUD GYU geyrge FDghasFDgvf SMA

VFfgfdF ghaFDSATY hffDShd FSsFKKbda RGsavv SFfvGssAjaw

dguHgauUvg gVGjknbgIFTJ HGnfyg b CkjgFRab BdRYTjjudt FD

JagGJ GU ikiayGTDYS liDgljaFRbegk  YInNahuDeDU kjgFTDkhfTY

AdjVDSJnfah  fEGFDS jhyjyf  cDEDuaui  BBFsaryg hgFST GDczase

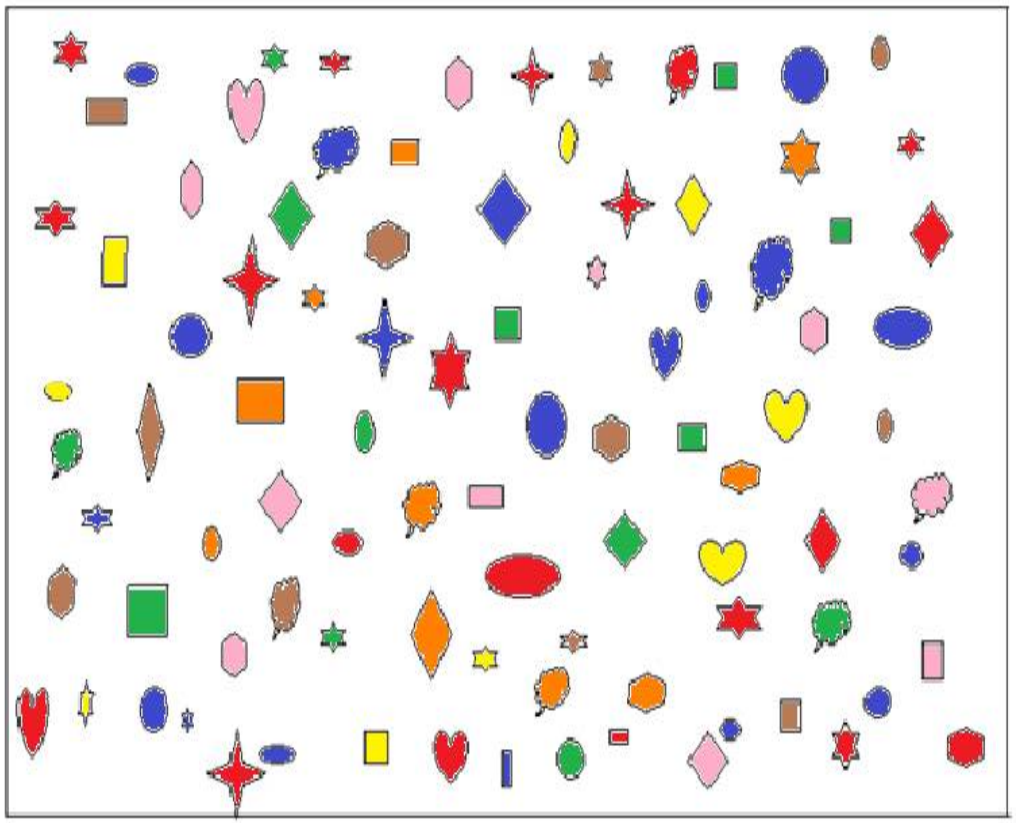
bolSnbDTacAYInn  NsaIWYgsU dfsAEbjT  CDafs stDWghfAI ad Yi

mDEUJ  DfdddgGHF  DHfssFhdfjJh  GfgdHFfv giAUIfjkLK nvOTsYl

Activity : Child was asked to cancel both the capital letters and small letter ‘a’ from the above within 2 minutes.

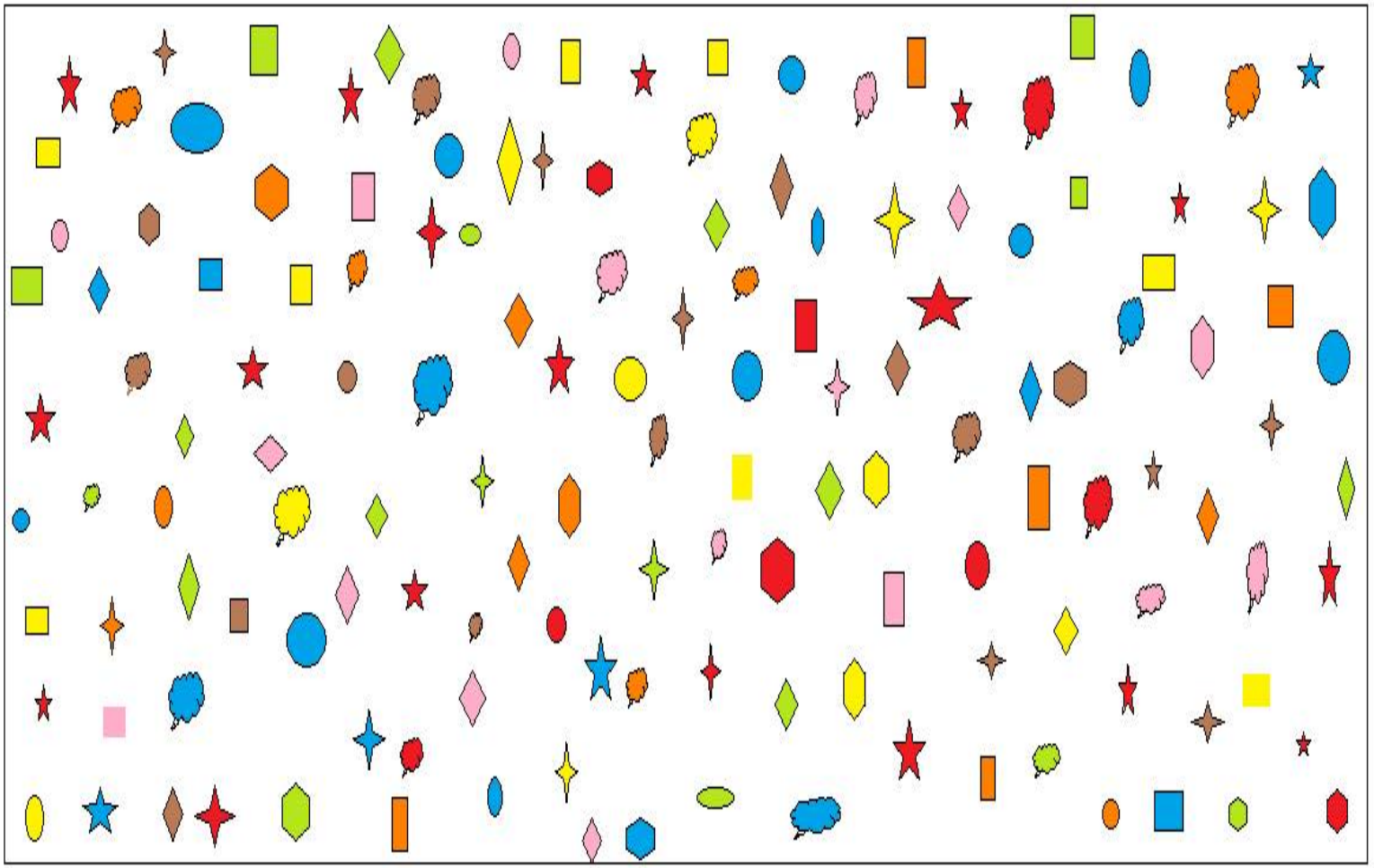
**Color Cancellation:**

**Simple color cancellation :**



Acivity : Child was asked to cancel all the red stars from the above within 1 minute. After that another sheet of same shapes was given and asked to cancel all blue circles within 1 minute.

**Complex color cancellation :**



Activity : Child was asked to cancel all the red stars and blue circles within 2 minutes.

XXXXV

**Storytelling :**

## Uôt\ôàdÏ TPm RWôúR

JÚ ÚLjûR úYhûPVôy TWiÓ ŁeLeLs, ARu Tû\fŁdLôL ÄyjÕd ùLôiP]. TWiÓm NU TXm ùTt\Rôp ùRôPokÕ úTôWôy], ïûPjR Ł TûY NUUôL TeihÓ ŁiQÜm ÄûY °ÚmTpûX. G]úY TWiÓm úTôWôyd Lû[jR]. GS¬p ïPkR Tû\fŁ ÄÚïp áP SPkÕ ùNpX ÐyVôR A[®tÏ TWiÓm Lû[lTûPkR].

ÆRtÏ úUp ÆûYL[êp úTêWºêPÜm ΦyV°pûX. TŁ«u Lû[ſ]êÛm ÆûY úNêckÊ úTê«]. ÆkR úSWºjSp ÆeÏ S¬ YkRÊ. CWºiÓ ŁeLeLPm jàPjR Cû\fŁdLêLJ úTêWºY úNêckÊ TÓjÊd jPlTûR Æ±kRÊ, S¬ RkSW°Uê]Ê. CûY CWºiÓm ClúTêûRdÏ GÝkÊ YWΦyVêÊ GuTûR ×¬kÊ ùLôiPÊ.


S¬ ùUpX Cû\fŁ jPkR CPjStÏf ùNu\Ê. CWºiÓm ŁeLeL°Pm CÚkÊ GSol×d ÏWºp YÚ/\Rê G]lTêjRÊ, TêYm ŁeLeLs úTêhP NiûP«p, Le´dLÜm TX"u± úNêckÊ úTên CÚkRÊ, N¬ SUdÏ CÊRêu SpX NªUVm G]¨û]jRÊ S¬ ŁeLeLs TêjÓd ùLôiYÚdÏm ùTêÝúR TênkÊ ùNufs Cû\fŁûVdLq® ùLôiÓ ùNu\Ê.

S¬ Cû\fŁûVj çdif ùNpYûR úYydûL Rêu TêodL ΦykRúR R®W°. CWºiÓ ŁeLeL[êÛm GÝkÊ ùNufs ReL/Ê CûWºûVd LêlTêt±d ùLês[

ΦyV° pûX. áY YêrkÕ. Es/d LÚjÕdLû/ TickÕ ùLês/ úYiÓm. ÂûR U\kÕ TûLû U ùLôiPèy]êp Φu\ôm .Bs Esú/ ÖûZkÕ Âû]jûRÙm ùLôÓjÕ ®ÓYêu. Gußm GSWê° dÏG° Sp CPm ùLôÓjÕ ®Pè¾oLs.

## úLs®Ls

1. ŁeLeLs Cû\fŁdLôL úTôWèYd Lû/jÕ úTô« ÚkRú SWm Vêo ÂeÏ YkRÕ?
2. S¬«u Rj/S\u Gu]?
3. CdLûR«u ĐhL ÚjÕ Gu]?

# RYßdÏj RiPû]EiÓ

ÏWºÏ Juß UWd/û[L°p Rê®VTfúV H¬dLûWdÏ YkRÕ. H¬dLûW KWm TÚkR UôUWjSp Rê® ®û[VôydùLôiÓ TÚkRÕ. Ntß úSWm Áu °yITYcLs Áu °yYûXÙPu YÚYûRJ TôcjRÕ. AYcLs LûWdÏ YkRÕm. RêeLs ùLôiÓ YkS ÚkÕ YûXûV. H¬«p Å£]ôcLs. £±Õ úSWjSp AYcLs YûXûVLûWdÏ TÝjRêeLs.

úLs®Ls

1. ÿWeÿ Uô UWºJ§p® û[VèydùLôiy ÚkR úTôÕ Á]YcLs GûR ùLôiÓ H¬dLûWdÿ YkRêcLs
2. YûXûV H¬«p ÅE VúTôÕ YûX ¨û\V Gu]Ed/VÕ?
3. Á]YcLs H¬dLûWû V® ñÓ ùNu\Õm ÿWe/tÿ Gu] ÊûN YkRÕ?

# ùNnRERª§ÚmTd/ûPdÏm


Y¡Lu JÚYu RuLÝûR«u ÆÕ NWdÏLû[Ht±/WºUeLPdÏf ùNuß ºVºTWºm ùNnYôu. RuàPu LôYÛdÏ JÚ SôûV¹Ùm ÆûZjÕf ùNpYôu.

SºVdÏj úRûYVº]ECÜLû[Ùm. LÝûR«u ΦÕ/p Es[êhûP«p Rôu ûYj§ÚlTºo. JÚΦû\LôhÓ Y-úV ùNuß ùLôiÝÚkRºoLs,

Y¡Lu Lû[l× úU-P. JÚ BXUWj§u ¨Z-p ÑÓjÕj çe/]ôu. LÝûR«u ΦÕ/p CÚkRÑû Uû V¹Ùm. ¸úZ C\d/ûYdLºUúX Y¡Lu ÑÓjÕ®hPôu

G]úY ÑÛ UL PPú]úV LÝûR TÚkRÕ, ARu AÚ/úXúV ŠôÙm ÑÓjS ÚkRÕ. LÝûRdÏ ÎÉ GÓjRÕm. AÚ/p TÚkR ×pùY° dÏ ùÑu\Õ. AoÏ TÚkR ×pûX úUnkÕ ÎÉVô± VÕ. úRûYVô] ÎÑÛUVô] ×p /ûPjRSp LÝûRdÏ LÜm U/ZfÉ EiPô]Õ.

úYiYV A[Ü ×pûX úUnkS ÚkRÕ. ŠôÙm GÝkÕ LÝûR«Pm YkRÕ. ŠôndÏ ÎÉ GÓjRÕ. ARlôp. AÕ LÝûR«Pm úLhPÕ. "Eu êhûP«p TÚdÏm ETQûYGÓjÕj Rô. G]dÏ ÎÉd/\Õ" Gu\Õ.

.B]ôp ÎÉ«pXôRLÝûR ŠôndÏ ùÑ NôndL®pûX ØRXô° GÝkRRm. EQÜ RÚYôo Hu AYNWIÕ/\ôn. ùLôgNm ùIôfsjS Ú Gu\Õ.

"¿ ÎÉdÏ ×pûXj Sufs®hPôn. G]úY AlIyjRôu T² úIÑÝôn. TluIôÝÕ G]dÏd LÓm ÎÉVôn TÚd/\Õ, ARlôp Rôu Gu²Pm TWdLm LôhÓ Gu/ú\u" G] úYiYVÕ Ŝôn.

LÝûR AûRd LiÓ ùLôs[ôUp úUnkRÕ, É±Õ úŠWjSp AqY-úV JŠôn YkÕ LÝûR«u Øuú] ¨u\Õ. JŠôûVdLiP LÝûRdÏ AfNm YkÕ®hPÕ.

"JSôn RmûUd ùLôuß ®Óm. GlTyVèYÕ Guû]d LôlTôtß" G] Sô«Pm ùLôgÆVÕ LÝûR. Sôn LiÓ ùLôs[ô Ubp ¨u\Õ.

"Euû]jRêu ÆR® úLh/ú\u G]d ùLgÆVÕ" LÝûR. "ùLôgNm ùTôß Hu AYNWlTÓ/\ôn. ÐRcXô° çe/ GÝkÕ YkÕ Euû]d LôlTôtßYêc" Gu\TyúV Sôn ùNuß®hPÕ.

LÝûR«u AÚlp Sôn ¨u\Rêp. TÕYûWjRVe/ ¨u\ JSôn LÝûR ÆÕ TônkÕ. LyjÕd ùLôu\Õ.. "RJkR úSWjSp Sôm JÚYÚdJ ÆR® ùNnRêp Rêu. AYoLPm ùNn Su± U\Yê Ubp S ÚmTÜm ÆR® ùNnYêoLs".

# ùÑn Su± Uô\YôúR

Lô]LjSp ×s° Uôu Juß UirfÆVôL Õs°j S¬kÕ ùLôiY ÚkRÕ.

úYPoLs ÆXo ×s° Uôû]l TôojÕ °hP]o. Tuß GlTyÙm. TkRJ ×s° Uôû]°yjÕ °P úYiÓm G] ¨û]jR]o, ÄYoLPm UôuÏhYûVl °ydÏm úSôd]p RmûU úSôd]j Rôu YÚi\ôoLs Tußm ùR° YôLJ ×¬kÕ ùLôiPÕ.

Sôm ÄYoL° u °Y«p Ed]d ùLôs[ôUp GlTyÙm RJjÕd ùLôs[ úYiÓm G]¨û]jRÕ. Æ±Õm RôUSVôUp SôuÏ Lôp TônfÑ–p Õs° d ÏSjÕ JyVÕ. úYPoLPm°ÓYRôn TpûX. ùRôPokÕ°uTt± Jy YkRôoLs.

¿iP çW°m Jy YkÕ®hPÕ UôuÏhY. Lû[Ix úU–P úUÛm ÃR]ôp JP Üm ΦyV®pûX. Ntß Tû[lTôt±fùNu\ôp Rêu SpXÕ G]Üm ¨û]jRÕ.

ÃúR úTôp ¨u\ TPj§úXúV Ntß Tû[lTô±VÕ. BhLs YÚm NlRm úLhÓ GÝkÕ TôojRÕ. ÃúR úYPoLs Rmû U®ÓYRêL TpûX úTô– Úd/\Õ.

ùRêPokÕ ÃV°W°Up®WhYd ùLôiÓm YkÕ®hPôoLs. TôYm Uôu ÏhYdÏj çd/ Yê¬I úTôhPÕ. ÃYoLs NÃÍj§p YkÕ ®hPôoLú[ "GlTyj RI×YÕ ÃYoL°Pm" Gußm úVôEjRÕ.

ÃRu AÚ/p RêYWoLs TÑùUVôp Y[okÕ ×Ro úTôp UiYd /PkRu. ÃI×RÚdLs ÖûZkÕ AûU§VôL J°kÕ ùLôiPÕ. ×RÚdÏs J°kÕ ùLôiP Uôu ÏhY AûNYtß AàU§VôL ¨uß ùLôiYÚkRÕ.

ÃRu AÚ/p Jy YkR úYPoLs. ùRêPokÕ Uôû]j úRY JYd ùLôiÓ TÚkR]o. ÃYoLs Ãq®PjûR®hÓf ùNu\Õm Rêu. UôàdÏ¨mU§ YkRÕ. Ru E«ûW°d LôlTôt±d ùLôiúPôm G] Ul/rfE AûPkRÕ. Õs°d Ï§jÕ ×RÚdÏ ùY°úV°YkRÕ.

×s° Ubôu Ïhÿ HtL]úŸ TŁúV°Ó CÚkRÕ, ÄfN°UVjSp Rêu úŸPoLû[l Tôcj®hÓ RûX ùR±dL Übm Jy YkRÕ. G]úŸ ÄRu TŁd Lû[l× ¿eL. ÄkRlTR¬ Ûs[ TÑû UVô] CûXLû[úV°ÚŁjÕ úUVkÕ®ñPÕ.

Ntſs úSWjSp Ubôû]d Lô€ ΦyVôUp. úŸPoLs YkR TôûR«úXúV SÚm®]ôcLs. úŸPoLs Tôcû¥p TPláPôùR] ÄiÓm ×RÚdÏs Jy J° kRÕ Ubôu Ïhÿ.

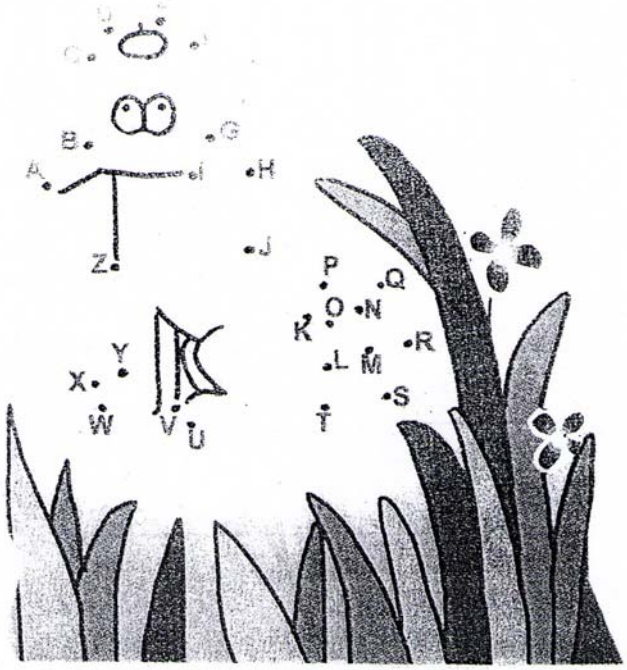
ßB]ôp. ClùTô€ÝÕ Äl×Rø Ubôu Ïhÿd Ï ŁRŸpûX. LôW°€m ×R¬p CÚkR APokR TÑû UVô] CûXLû[ùVpXôm Rêu. ÄÕ Ssſs ®ñPúR G]úŸ Ubôu Ïhÿû V°CûXL[ôp Uû\dL ΦyV°pûX.

ÄRu ÄÚjp YkR úŸPoLs LiL°p Ubôu Ïhÿ ùR¬kRÕ. ÄR]ôp RlĵÕ J P ΦyV°pûX, CR]ôp. úŸPoL°Pm Ubôhÿd ùLôíÓ Ubôu Ïhÿ ®¯jRÕ. "Sm ÄŸNW×jS Vôp Rêú]. Sm Ł«ûWdLôlTôt± V°CûXLû[j Ssſs®húPôm".

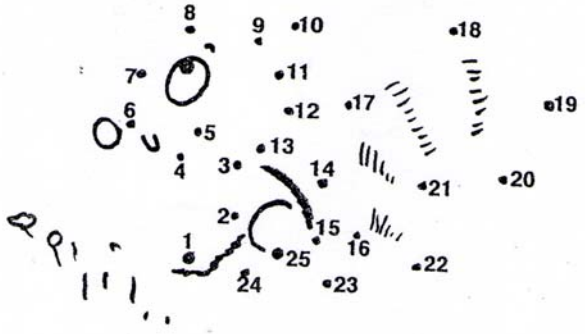
"Su± U\kÕ ùNnRùNV°ÛdÏ ßBiPŸu RiPù]RkÕ®ñPôúW". G]Gi¦ Li½o YyjRÕ.

úLs°Ls

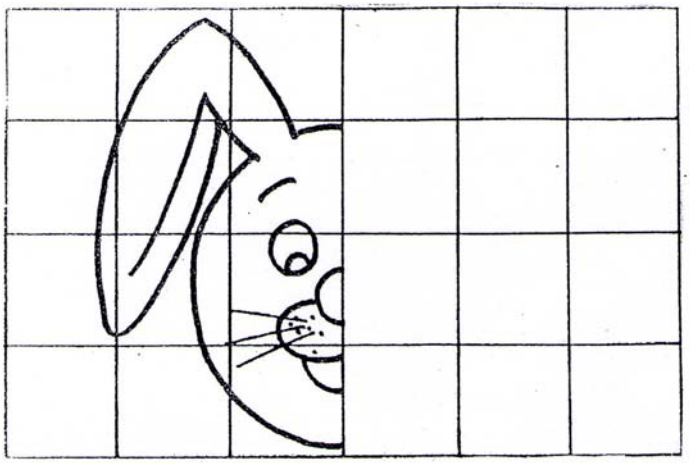
1. Y\Lu GRuÄÕ NW°dÏLû[Ht±fùNuſs°V°TôW°m ùNnYêu?
2. Y\Lu LôŸÛdÏ RuàPu GûRÄùZjÕfùNu\ôu?
3. V°ûW°lTôcjÕLÝûRdÏ ÄfN°m YkRÕ?



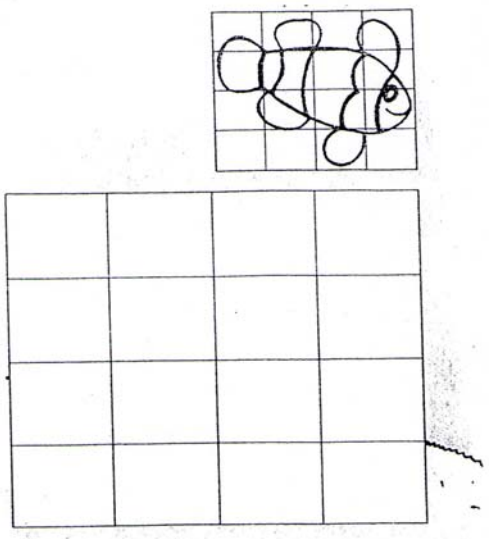

Activity : Child was asked to join the dots from A to Z and find out whom is in this picture.




Activity : Child was asked to join the dots from 1 to 25 and to find out whom is In this picture.



Activity : Child was asked to complete the figure and identify.



Activity : Child was asked to draw a bigger fish in the empty squares given